Prefabricated Input in Language Acquisition: The Syntax of Storybooks

Thesis
presented to the Faculty of Arts
of the University of Zurich
for the degree of Doctor of Philosophy

by
Barb Breustedt
of Germany

Accepted in the autumn semester 2007
on the recommendation of
Professor Dr. Andreas H. Jucker and
Professor Dr. Joybrato Mukherjee

Zürich, 2008

for Alice and Ed

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Acknowledgements

The work on this thesis has been supported in a number of ways by many people to whom I would like to express my gratitude at this point.

First and foremost, I would like to thank my supervisors, Andreas H. Jucker and Joybrato Mukherjee, for continuing advice, constructive criticism and the time they invested in reading and re-rereading my work at its various stages. Without Danny Mukherjee's initial "persistent" encouragement and his imperturbable belief in my ability to write a PhD thesis this study would never have been written. I am most grateful now that he did not peg away; even after I had left Gießen, he continued to support me and through regular emails, phone conversations and personal meetings in either Gießen or Zurich became an important co-supervisor and friend. Although less familiar with my chosen field of work Andreas Jucker encouraged and supported me throughout the years in Zurich in his own ways. I always valued his comments and suggestions and am most thankful for his input regarding both academic as well as personal questions.

A number of people have repeatedly helped me with useful comments, encouragement and, above all, their patience in listening to me. When starting the work on this thesis in Gießen and throughout the years I profited from many conversations and discussions with Imke Neumann, Julijana Nadj and Britta Freitag. In Zurich, Claudia Aeschbacher became a valuable and inspiring workmate and friend; I much appreciated our working together. Thanks also to my lifetime friend Dina Steckhan, who never seems to tire of reminding me of what I have achieved in writing this thesis. My special thanks, however, goes to Ursina Kellerhals: together we went through all the ups and downs of writing dissertations and I am truly grateful for her being such a patient friend and colleague.

I would also like to thank Tony and Janet Rutherford for their close reading and correcting of the manuscript as native speakers.

This study is based on a corpus that comprises a great number of wonderful and inspiring children's storybooks the vast majority of which belong to Alice and Ed Chisnell. Without their early enthusiasm for books and the intensive reading aloud they experienced early in their lives there would not have been so many books on their shelves for me to borrow. While the accomplishment of this study would not have been impossible without their storybooks, it would certainly have been far more difficult. I therefore dedicate this work to Alice and Ed and all the other children to whom I have ever read or will read stories.

Zurich, January 2008

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1. Introduction

1.1 Aim and scope

The aim of this study is to offer a description and analysis of the verb complementation patterns used in children's storybooks and to discuss the findings against the background of propositions currently held in first language acquisition theory. Four examples of how verb complementation may vary from case to case are shown in (1) to (4):

(1) The electrician has **arrived**. (CB 39)

(2) He'd **found** the scrubbing brush! (CB 25)

(3) Paul **put** his arm around Jim. (CB 63)

(4) So he **gave** the new baby his Huggy. (CB 20)

As indicated by (1) to (4), a verb can be used intransitively as in (1), monotransitively (2) with one noun phrase as its complement (*the scrubbing brush*), complex-transitively (3) with one noun phrase (*his arm*) and an obligatory adverbial (*around Jim*) or ditransitively, complemented by two noun phrases (*the new baby*; *his Huggy*) as in (4). Although not all English lexical verbs allow the full range of constructions, many of them can be used in more than one transitivity frame and, when acquiring their mother tongue, English-speaking children face the task of ascertaining the correct usage of frames for all of their acquired verbs.

From early on language acquisition researchers have focussed their attention on children's slow but sure mastering of the multi-faceted English verb paradigm. With Brown's landmark study of the linguistic development of "Adam, Eve and Sarah", published in 1973, accounts of actual language use came to the fore. Over the last three decades, surveys of input and output language, *i.e.*, of language used by mothers or other caretakers when talking to their children and of the language produced by young children, in natural contexts as well as in experimental settings have shed more and more light on this important feature of language acquisition (e.g., Abbot-Smith et al. 2004; Brooks and Zizak 2002; Gallaway and Richards 1994; Naigles and Hoff-Ginsberg 1998). This vast interest in the acquisition of verbs and their argument structure is justified by the fact that the verb phrase as the central element of a clause is

syntactically of unparalleled importance. Taking up this research path, I intend to integrate my study in this tradition and to make a contribution to the ongoing discussion of the features found in children's input language and of their relevance for the language acquisition process.

For this purpose one particular source of input language has been chosen: children's early storybooks. In recent years, parents have been exceedingly encouraged to read storybooks to their toddlers even before their first birthday, *i.e.* before language production as such actually becomes noticeable in the child (see, for example, the North-American *Reach Out and Read* organisation and its programme). As far as research in language acquisition is concerned, existing studies of the relationship between early shared book reading and language development (e.g., DeBarysche 1994; Karrass and Braungart-Rieker 2005; Hargrave and Sénéchal 2000) have focused exclusively on its impact on vocabulary growth. In contrast to these primarily observational, and often longitudinal, studies, the current work is firmly based on a descriptive and empirical approach and, thus, draws upon a corpus which has been compiled specifically for this purpose. The corpus comprises the textual parts of 73 storybooks of mainly British origin. Its overall size of over 43,000 words allows me to investigate the four different verb complementation patterns characteristic of the English language (intransitive, mono-, complex- and ditransitive) not only qualitatively, but also quantitatively in order to uncover and subsequently discuss distributional aspects concerning the usage of these various verbal construction types and of the lexical verbs used within the individual verb frames. While a corpus of this size cannot claim to be altogether statistically reliable, it can certainly serve as an adequate and valid basis to illustrate plausible tendencies of language or, more precisely, verb use in children's storybooks. Of utmost importance for this kind of analysis and for the discussion of my findings is its strong association with a particular approach to language acquisition so as to be able to justify it and draw a comparison between my work and other input studies.

Following the "emergentists"[1] among language acquisition theorists, the principal underlying assumption in this study, therefore, is that "all of our fundamental

[1] Hopper (1987) first introduced the term "emergent", originally formed by Clifford (1986) in the context of culture, to the area of grammar: "The notion of Emergent Grammar is meant to suggest that structure, or regularity, comes out of discourse and is shaped by discourse as much as it shapes discourse in an on-

knowledge of language can be 'learned' on the basis of what we hear" (Goldberg on the book jacket of Tomasello 2003). Consequently, the emergentist model of acquisition requires the thorough examination of the different kinds of input language to which a child typically has access as well as of child language itself. While postulating learning processes that rely exclusively on general basic cognitive abilities, such a model draws heavily on the structure(s) of the ambient language and is therefore closely linked with a usage-based framework. Thus, the growing number of recordings and analyses of actual language samples is of utmost importance for emergentist acquisition studies: only detailed studies of usage render it possible to sketch out which constructions children are exposed to and to determine their communicative functions and their relative frequencies. Working independently from each other researchers have arrived at a common essential conclusion: children's developing language skills syntactically mirror the language they hear used to them in so far as that frequent constructions in the input language have been found to be among the very first constructions to emerge in child language (e.g., Cameron-Faulkner et al. 2003; Mintz et al. 2002; Theakston et al. 2004). With the role of input language strengthened in such a way within the emergentist framework – compared to other, "nativist" approaches where language (and other behaviour) is believed to be (genetically) pre-programmed in the individual rather than a product of learning – all kinds of input studies deserve attention and, as I will demonstrate, a study like the current one can add to the growing insights into this area.

A further important "tool" in connection with the emergentist, usage-based approach to language acquisition is the recognition of linguistic constructions as the units of both grammar and acquisition. Linguistic constructions, defined as "form-meaning correspondences that exist independently of particular verbs" (Goldberg 1995: 1), are conceived as meaning-carrying units. So, for instance, it is argued that the intended transfer of an object Z from an agent X to a recipient Y ("X causes Y to receive Z" – 3) is the basic sense of the ditransitive construction below which carries these semantics independently of the lexical verbs involved (Goldberg 1995: 32, 141):

(5) That evening Little Bear **built** them a shelter from the rain […]. (CB 29)

(6) […] so he **asked** her the way. (CB 29)

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going process." More recently, "emergence" as a technical term has been transferred to the field of first language acquisition in order to stress the idea of emergence of the language faculty.

Both *a shelter from the rain* in (5) and *the way* in (6) are understood as objects of transition. In contrast to generative frameworks which typically posit a strict separation of grammar and the lexicon in the brain, constructivists, following the above-given claims, argue that children can use function or meaning of linguistic constructions to assist in their acquisition of both the distinct construction types and verbal semantics/verb meanings. During their first years of life, children's linguistic constructions will differ from those of adults' and are subject to change. A child's set of linguistic constructions has been shown to develop only gradually revolving around simple "item-based" and, most often, verbal constructions that they pick up in their ambient language (e.g., Lieven 2006; Tomasello 1992). The analysis of the corpus data enables me to determine similarities and differences between storybooks and other input sources, e.g., maternal or caretaker language regarding the usage of verbal constructions in order to evaluate the possible contribution of early shared book reading to children's grammatical development.

For such an investigation two assumptions anchoring in the emergentist/constructivist model that is adopted here are significant: the frequency with which the different verbal constructions appear and the variation of lexical verbs within them. Experimental (priming) studies (e.g., Abbot-Smith et al. 2004; Savage et al. 2003, 2006) as well as examinations of naturalistic data from adult-child dyads (e.g., Budwig et al. 2006; Cameron-Faulkner et al. 2003; Mintz 2003) have shown children to master all kinds of verbal constructions – almost independent of their complexity – from early on given that they are a frequent part of their input language. As I will show, the frequent reading aloud of storybooks can lead to a repeated use of verb frames which either differ from the general structures occurring in natural linguistic input or are identical with frequent frames found in, for instance, maternal input language. Children can take advantage of both situations: the former will widen their input and knowledge of verbal constructions while the latter will stabilise their representations of already acquired syntactic patterns. Furthermore, the usage of lexical verbs different from those children are used to within the various construction types can help fostering their awareness of the construction and its meaning. Variation is also important for children's understanding of the multiple ways in which some of the lexical verbs may be used. I will, therefore, also explore in more detail the distribution of lexical verbs across the

different verb frames and demonstrate in how far the two input sources may vary in their use of the same lexical verbs.

The current study does not propose to be comprehensive in its analysis of the verb usage in children's storybooks and its possible implications for language acquisition; rather, it understands itself as an important step towards a more in-depth survey of the syntactic constructions in children's input language. The selected source of "prefabricated", *i.e.*, not spontaneously produced (written) input is seen as a move in the direction of broadening the range of input language studies. This work is, above all, concerned with the use and distribution of lexical verbs within and across the various syntactic verb frames in the corpus. The only other verb group that is covered here is that of modal verbs. Modal verbs are an "add-on" to the basic verb phrase and as such increase the complexity of the verbal constructions on which I focus in general. This small group of verbs is thus included, especially, since the acquisition of modal verbs and the whole concept of modality has also, to some extent at least, been examined from a usage-based perspective (Shatz and Wilcox 1991). Although there are, undoubtedly, a number of other interesting and important "candidates" among the various verb classes and subclasses that are certainly worth investigating against the background of language acquisition, these will not be part of the current study.

1.2 Chapter overview

Chapter 2 is concerned with the theme of language acquisition and, thus, establishes the theoretical framework which provides the basis for the current study. A short overview of the two major distinct views held in the field of first language acquisition theories serves to highlight the emergentist/constructivist perspective and its significance in connection with this work. The focus will be on the role which is ascribed to, on the one hand, verbs in general and, on the other hand, syntactic constructions within the process of language acquisition. Tomasello (1992, 2003) claims that children start off with simple concrete constructions which they pick up directly from their input language ("verb-island hypothesis") and move on to more complex abstract constructions only gradually. It is argued that the variability among and the frequency of the verbal constructions in the input are two of the decisive factors along the acquisitional path. In the remaining part of Chapter 2, these assertions are

further developed. As I will show on the basis of a number of input studies, the usage-based approach adopted by Tomasello (e.g., 2000b) and others offers important insights into the nature of the interplay between input language and children's developing language. In this context, I will also broach the issue of so-called formulaic sequences and discuss the role they are assumed to play in child language acquisition.

Chapter 3 addresses the issue of the benefits that are assumed to originate from early shared book reading in the context of language acquisition research. For this purpose, I will draw on a number of existing studies on the effects that early shared storybook reading has on children's language development so as to, firstly, contextualise my work in its research area and, secondly, to differentiate its approach from already existing studies.

In **Chapter 4**, the current study's approach and its main research questions will be outlined. I will first give a definition of the term "storybook" as it is used throughout my survey and then present a detailed description of the compiled database which provides the foundation upon which my investigation is based. A thorough discussion of the selection criteria for the included (and excluded) texts is necessary at this point in order to ensure the representative character of the corpus. After a brief illustration of the annotations that have been created for and applied to the database the final section of the chapter is devoted to those methodological considerations that are relevant in the context of this corpus-based study. It includes the illustration of the concordancer tool used for the retrieval of my data and terminates with giving a first overview of the verb classes in the corpus.

Chapter 5 focuses on the description of the actual grammatical framework that is adopted in conjunction with the analysis and the categorisation of the verb constructions found in the corpus. Before I turn to a presentation of the scheme for English verb complementation outlined by Quirk et al. (1985) and the adjustments which I made to it in the context of the current work, I will introduce three important notions the adoption of which is strongly advocated in Quirk et al.'s *Comprehensive Grammar*: systematic correspondences, gradience and multiple analysis. "Gradience" is of particular importance in the context of the current study: although still rejected by many who argue in favour of a rigid "all-or-none" system of categorisation, the concept of gradience (together with multiple analysis) allows for a certain degree of categorical

flexibility in grammar (Aarts 2004). As will become evident in the course of this study, clear-cut categorisation is not always easy or possible and to admit to a gradient is at times valuable, especially, since it often comes closest to vivid language use. The illustration of the four major complementation patterns of lexical verbs is followed by a brief consideration of other verbal constructions and the status of phrasal and prepositional verbs within the general framework. I conclude by presenting some critical issues raised in connection with the Quirk et al.-scheme. The reasons why the older work by Quirk et al. has been chosen as the foundation of the current study despite the availability of the more recent and similarly comprehensive grammar by Huddleston and Pullum (2002) will likewise be discussed in detail at this point.

Chapter 6 provides an in-depth analysis of all the lexical verbs in the children's storybook corpus. I look at each of the four main usage frames of lexical verbs (intransitive, mono-, complex- and ditransitive) in turn in order to determine the most frequently used constructions along with the verbs used most commonly within and/or among them. My analysis will comprise both qualitative and quantitative aspects. I will examine a number of lexical verbs in more detail and pay special attention to those verbs which occur with noticeable high frequencies in each complementation pattern. In the course of this undertaking, I review some studies investigating the frequencies of verb frames as well as of verbs entering those frames in actual language use. Appropriate to the respective matters raised by my findings, my discussions of these surveys will be more or less detailed. Both, studies of child directed speech and child language and, to a lesser extent, other corpus-based surveys of contemporary language use will be consulted in order to establish a basis for comparison. In this context, I will, for instance, look at two of the genres presented in Biber et al. (1999): "conversation" and "fiction".

During the discussion of the four main construction types two additional issues will be explored: verb alternation between the intransitive and the monotransitive frame and what I call "direct speech" verbs. The former is a well-researched topic in studies on first language acquisition, whereas the second is a particularity of the present corpus. The final section of the chapter pursues a number of issues recently raised by various researchers in connection with early verb acquisition: semantic generality of verbs, semantic similarity among verbs and distributional aspects of verbs. Coming back to the

four main complementation groups, I will briefly survey these aspects in the context of the earlier findings of the present chapter.

Chapter 7 is devoted to the notion of multiple class membership of verbs which is illustrated by the verb *show* in the following examples:

(7) Sometimes they would even wink at each other, but it hardly **showed**. (CB 26)

(8) "Come on, I'll **show** you!" (CB 63)

(9) "Oh, I can **show** you the land of your dreams!" (CB 29)

(10) Mimsey **showed** him around while Binks jumped and tumbled and bounced and sang as he sat the table for tea. (CB 55)

Examples (7) to (10) demonstrate that *show* can enter all of the four basic construction types: it may be used intransitively (7), monotransitively (8), ditransitively (9) or complex-transitively (10). For the language-acquiring child, this kind of flexibility inherent in the English verb system constitutes a particularly problematic ("tricky") feature. The ability of a number of English lexical verbs to enter into more than one or two different syntactic frames will therefore be exemplified by two specifically versatile candidates of this group: *get* and *have*. A careful examination of their syntactic behaviour in my data will allow me to evaluate in how far the written language exploits the various options it has at its disposal. Based on my findings I go on to suggest that these constructions, despite their almost unparalleled flexibility, might not pose a particular learning problem for the child.

In **Chapter 8**, I offer a comprehensive overview of the usage of two variants of the four verbal construction types discussed so far. I firstly turn to the passive construction(s) in English which have been shown to be of relatively late occurrence within English-speaking children's language acquisition process. For a long time it was reasoned that the passive construction(s) simply pose difficult units of acquisition because of their syntactic complexity; however, a number of more recent usage-based studies (e.g., Brooks and Tomasello 1999) claim that children's late acquisition of the passive construction(s) is also connected with the relative lack of passives in the ambient language. The investigation of both *be*- and *get*-passives will allow me to clarify the situation regarding distributional characteristics of these constructions in the corpus and compare it to the results of existing input studies. Secondly, I explore the use and the distribution of the nine central modal verbs (*can*, *could*, *may*, *might*, *must*, *shall*,

should, *will* and *would* – compare Quirk et al. 1985: 120). As auxiliaries, modal verbs enter the verb frames analysed in Chapter 5 and extend them syntactically as well as semantically. Children's understanding of the concept of modality develops rather late, centring around deontic modality first and only slowly expanding towards epistemic modality (Stephany 1986). Both comprehension and production reflect this pattern. Again, the central question is whether this is due to difficulties concerning children's general cognitive abilities or due to a lack of adequate input. With regard to the latter, I will show to what extent the frequent reading of storybooks may be a useful additional input source.

Chapter 9, finally, provides a summary of the main themes of the study highlighting its findings and their implications. Furthermore, the possible contributions of early shared book reading to children's language acquisition process are resumed and suggestions for further research will be made.

2. Language acquisition: On the role of the verb paradigm

2.1 Introduction

It is the aim of this study to give a detailed description of the use and distribution of English lexical verbs and their complementation patterns across a substantial collection of children's storybook texts. As will become apparent in the present chapter, research in child language acquisition assigns an ever growing importance to the linguistic input children hear in their everyday lives. So if children are being read to on a regular basis from early on in their lives, a part, albeit a small one, of this input language may come out of storybooks. An overview of current research on early shared book reading will be provided in Chapter 3; the corpus and the methodology employed for its investigation will be the topic of Chapter 4.

In order to be able to place the results of the following corpus analysis and their interpretation (Chapters 6-8) in the wider theoretical spectrum of language acquisition theory, a conceptual framework must be established. In the current chapter, I will thus introduce the main theoretical premises of the cognitive-functional/constructivist approach to child language. While for a long time Noam Chomsky's innateness hypothesis was the dominating idea among language acquisition theorists, other approaches that have no need for postulating an innate universal grammar are increasingly pushing to the forefront at present. The cognitive-functional approach upon which the current study is based is one of them. Once I have given an overview of its principal assumptions, I will turn to the significance of verbs within the developmental process. Verbs, it is claimed, do not just play an important role in adult sentence structure, but are also a prominent feature in child language and child language acquisition; but at the same time – for reasons that will be highlighted in subsection 2.2.2 – verbs seem to pose especially difficult units of acquisition.

The cognitive-functional framework implores the question of verb acquisition in a particular manner: it activates the notion of constructions – form-meaning pairings that are assumed to not only be part of mature linguistic competence, but to also assist in the acquisition process. Both construction grammar and the usage-based model of language are an integral part of the approach (2.2.3). I will offer a comprehensive discussion of the hypothesised role of constructions on a child's path from a "one word

only"-speaker to a linguistically fully developed human being in 2.3. In a final step, I will illustrate in detail how the ambient language might influence children's growing repertoire of words and syntactic constructions. This is not to say that children's cognitive abilities as one restricting factor in early child language are altogether neglected in the current approach. Rather, as will become apparent, the structure of the input language is recognised as another, albeit important, factor in the process. Part of the discussion of the structure of linguistic input focuses on so-called prefabricated or formulaic sequences that are characteristic of all kinds of language, be it written or spoken language. Formulaic sequences will therefore be included in the reflection upon the possible role that input language plays in child language acquisition.

2.2 Language acquisition: The emergence and growth of grammar in a cognitive-functional framework

2.2.1 Theoretical approaches to first language acquisition

Approaches to first language acquisition are primarily characterised by the theory of linguistics which they assume as their foundation. The following quotations illustrate the two extreme ends of a whole theoretical spectrum concerned with the ways and means by which children are assumed to "crack" the grammatical code of their first language(s):

> There is little doubt that the basic structure of language and the principles that determine the form and interpretation of sentences in any human language are in large part innate (Chomsky 1987).

> […] children imitatively learn concrete linguistic expressions from the language they hear around them, and then – using their general cognitive and social-cognitive skills – categorize, schematize and creatively combine these individually learned expressions and structures (Tomasello 2000a: 156).

Although these words stem from different decades, different centuries even, the debate between those who postulate that all human beings possess genetically-predetermined, language-specific brain structures, and those who claim that general learning mechanisms are sufficient for the acquisition of any language, is still far from being settled. For all the ongoing research, new insights in the field emerge only slowly and theoretical opinions remain deeply divided.

A majority of researchers of child language acquisition still base their investigations on Chomsky's theory of generative grammar. Despite a number of

revisions undertaken by Chomsky himself (1981, 1986, 1995, 2000), some of the general assumptions of his mid-1950s model (Chomsky 1956) have been left unchanged: still central to the theoretical framework is the common assumption that all children are born with a universal grammar consisting of certain principles and parameters which are set to language-specific values once the child receives the adequate linguistic input. Being innate, universal grammar is there from the beginning and remains unchanged throughout the lifespan of an individual. This is an important argument for generativists to make use of adult-like formal grammars when describing children's early language and to allow for the assumption that children have the same understanding of syntactic categories as adults. However, approaches of this type encounter severe difficulties in trying to explain linguistic variation across languages as well as developmental changes in individuals (the "continuity assumption" – see Pinker 1984):

> No one has described a mechanism that could link innate universal representations to the specific structures in specific languages, given that the language-particular structures are so various in their manifestations. Nor has anyone espousing a theory of representational innateness proposed a satisfactory way of dealing with developmental change (Tomasello 2003: 284).[2]

And yet the ability to account for differences between languages as well as for systematic differences between children learning the same language and for their individual developmental paths greatly conditions the claims of any theory of language development to universality (Lieven 1994).

The theoretical framework upon which the analyses of the current study are based is a very different one; it has its origin in recent work in functional and cognitive linguistics (e.g., Bates and MacWhinney 1979, 1982, 1987, 1989 and Givón 1979, 1989 on functional linguistics; Lakoff 1987, 1990 and Langacker 1987, 1990 on cognitive linguistics). As already indicated by the quotes taken from Tomasello (2000a, 2003), this framework stands in sharp contrast to the Chomskyan model(s). It can be said to be situated at the other end of the spectrum of approaches to first language acquisition. Where Chomsky and his followers "posit highly specific innate linguistic structures that lead to the putative development of an adult linguistic system within a few short years of a child's life" (Kemmer and Barlow 2000: xi), cognitive-functional models of

[2] For a more detailed description of these two major problems for generativist theories of language acquisition see Tomasello (2003: 182-188).

language acquisition "argue that the child does not discover grammar; he slowly constructs it" (Karmiloff and Karmiloff-Smith 2001: 139). Grammatical structures are said to very slowly emerge via the exposure to actual units of language use: "[…] Cognitive Grammar accepts that becoming a fluent speaker involves a prodigious amount of actual learning, and tries to minimize the postulation of innate structures specific to language" (Langacker 2000: 2). Such developmental (or emergentist) models of language acquisition nevertheless acknowledge a species-unique biological adaptation for symbolic communication, but in doing so they unmistakably emphasise the role of more general cognitive abilities: "[…] it is conceivable that language acquisition is based on general cognitive mechanisms that are also involved in the development of other cognitive domains […] grammatical development is based on (inductive) learning" (Diessel 2004: 37). Essentially, such a learning hypothesis invokes two premises: firstly, the input children receive plays a crucial role within the process of acquiring a language and children therefore need to be exposed to input data over an extended period of time (years!) before they will have induced, step by step, the structures of their native language. In contrast to the Chomskyan "input-as-trigger" model, cognitive-functional approaches view instances of language use as the prime input driving the linguistic system's formation (Kemmer and Barlow 2000: xii). Secondly, grammatical development must be understood as a long-lasting gradual process (up until the age of puberty) that involves constantly changing structural categories dissimilar to those found in adult language (Diessel 2004: 37ff).

Such a perspective leaves room for both the variation among individual acquisition paths and the notable developmental change in the individual child who simply takes time to fully develop his or her language competence. Furthermore, it accounts for language change and the differences among languages around the world by integrating the process of grammaticalization[3] into its framework:

> […] it is a historical fact that the specific items and constructions of a given language are not invented all at once, but rather they emerge, evolve, and accumulate modifications over historical time as human beings use them with one another and adapt them to changing communicative circumstances (Tomasello 2003: 13-14).

[3] Bybee (1998: 252), for example, describes grammaticalization as the process in which "a frequently used stretch of speech becomes automated as a single processing unit and through further frequent use, takes on a generalized and abstract function". A comprehensive overview of grammaticalization theory can be found in, e.g., Traugott and Heine (1991) and Hopper and Traugott (2003).

The cognitive-functional approach thus holds a significantly different view of how the grammatical dimension of any given language comes into existence. Rather than seeing in it a product of human phylogeny, grammar is understood as being derived from historical and ontogenetic processes, *i.e.* it is a direct product of language use (ibid.: 283). Consequently, in the course of their histories, speech communities have adapted their language use and with it the evolving grammatical structures to individual – due to different regional and societal needs/priorities – and changing communicative circumstances. In the course of their ontogeny children are exposed to utterances that instantiate these specific linguistic features and it is their task to (re-)construct the abstract grammatical dimensions of the language they are acquiring (ibid.: 283). The historical and ontogenetical development of language structure thus follows similar evolutionary paths.

Two of the most important features of the cognitive-functional approach for the current framework are construction grammar and the usage-based model of language (acquisition). I will discuss these in 2.2.3. The most significant general cognitive processes that are believed to be involved in acquiring all the facets of one's native tongue and are constantly referred to by those advocating the emergentist perspective of language acquisition will be introduced in 2.3. First, though, I will turn to some particularities of verb acquisition in general.

2.2.2 The verb as "the hero of the sentence"[4]

Hopper (1997: 93) claims that "the complexity of the English verbal system is of a peculiar sort". Consider the following sentence:

(1) The little red car kept on hurrying in and out of the traffic in the wet streets. (CB 21)

Where is the verb? *Kept*? *Hurrying*? *Kept hurrying*? *Kept on hurrying*? *Kept on hurrying in and out* or *kept on hurrying in and out of*? It is clear from this example that it is difficult to identify the manifestation of the abstract grammatical category "verb" in a sentence like (1). There rather seems to be a dispersal of verbal elements over various parts of the sentence (compare Hopper 1997: 93f). But verbs are important: "Verbs are the architectural centrepiece of grammar, determining the argument structure of a

[4] The phrase goes back to Louis Bloom and is quoted in the inside jacket of Hirsh-Pasek and Michnick Golinkoff's book *Action Meets Word* (2006).

sentence" (Michnick Golinkoff and Hirsh-Pasek 2006: 4). What does all this mean for language learning?

Despite a general awareness of the significance of verbs early on (e.g., Bowerman 1973; Brown 1973), research in child language acquisition only slowly turned its attention to this word class. Partly, that might have been due to Gentner's (1982) classic and influential article which argued that, when toddlers initially begin speaking, they produce a number of object labels, *i.e.* nouns, before any verb enters their active language repertoire. However, more recent studies (e.g., Barrett 1983; Gopnik 1988; Tomasello 1992) found "that nonnominal expressions (including some adult verbs) are present from the very earliest stages of the language development of many, if not most, children" (Tomasello 1992: 9). These findings have led most groups of researchers, independently of the general perspective adopted, to make the question of how children acquire lexical entries for verbs and in particular their subcategorisation frames one of the central questions concerning the child's acquisition of syntax: "Learning English syntax is intimately tied to learning about verbs – their inflectional and argument structures, the complements they allow, and the acceptability of operations such as passivisation" (DeVilliers 1985: 587). With this emphasis on verbs as the argument structure determining elements of sentences in mind, I decided to make lexical verbs and their complementation patterns also the main object of analysis within the current study.

Tomasello's 1992 diary study of his daughter's grammatical development was the first extensive developmental approach to describing one child's emerging language not in adult, but as closely as possible in its own terms (1992: 29). The acquisition of lexical verbs lies at the centre of this longitudinal study. For Tomasello, the knowledge and understanding of verb-argument structure with all its different syntactic argument categories forms the foundation of human grammatical competence (1992: 7). But not just the importance of verbs as a key to understanding child language acquisition is stressed; rather, he takes what might be called "common knowledge" one step further: "[…] the transition to anything resembling adultlike syntax clearly depends on the child's acquisition of verbs and their associated argument structures" (1992: 20). Tomasello found verbs to be the protagonists in children's early grammatical development. Why should this be so? Of all available syntactic categories, the value of

verbs (and their syntactic frames) as good cues to sentence meaning is greatest and presumably this is the reason for children's early learning of verb-centred argument structure patterns ("verb islands") (Goldberg 2006: 105). The monograph's major claim is that "in the early stages the child learns about arguments and syntactic marking on a verb-by-verb basis, and ordering patterns and morphological markers learned for one verb do not immediately generalize to other verbs" (Tomasello 1992: 23).[5] The assumption is as follows: children start off with simple, concrete linguistic items – words (e.g., *cat*), complex expressions (e.g., *I-wanna-do-it*) or mixed constructions (e.g., *Where's the* __ which is partially concrete and partially abstract) (examples taken from Tomasello 2005: 7-8) – which they extract from the input language they receive and only gradually and in piecemeal fashion move on to construct abstract categories and schemas that become more and more like those they encounter in the adult language around them.[6] Such a view of language acquisition, based on construction grammar, surmises a specific understanding of the nature of grammar: rather than postulating an abstract structure that underlies all language use, grammar and language use are seen as closely interwoven; it is argued that grammar is built up from specific instances of language use. In connection with this, a discrete separation of grammar and lexicon is strictly rejected because there are too many exceptional cases in which lexical items occur in or require certain (unexpected) syntactic structures.[7]

It should not go unacknowledged that parallel to Tomasello's verb-specific and item-based learning hypothesis a number of other models were drawn up in the attempt to get a grasp on children's early verb acquisition. Two of them, based on the generative school of thought, will be briefly reviewed now. Note that they are both concerned with finding a solution to a well-known problem for the acquisition of language generally and of words in particular (syntactically and semantically), namely the "stimulus-free nature of language use" (see Chomsky 1959).[8] On the one hand, there is Pinker's (1984) hypothesis of "semantic bootstrapping", a theory that aims to account for how the child might initially use word meaning to bootstrap the particular syntax of his or her native

[5] Note that in the literature this is widely known as the "verb-island hypothesis", a term Tomasello himself introduced (1992: 23).
[6] For a more detailed description see section 2.3 below.
[7] Compare, for example, Bybee (2005a: 14-15).
[8] What is meant here is the lack of reliable correlations between language and real-world events: the extra-linguistic context is not a very good predictor of what someone is going to say (see, e.g., Lidz 2006).

tongue. The central claim of the semantic bootstrapping hypothesis is that children come provided with innate semantic entities (like a thing, causal agent, action, thing being acted upon, thing changing state, or path travelled from source to goal) that they already understand meaning-wise. They can apply these to input sentences and so infer the corresponding innate syntactic universals (noun, subject, verb, object, preposition, and so forth) (compare, e.g., Karmiloff and Karmiloff-Smith 2001: 115-116). Pinker himself admits that his hypothesis "does require, as a background assumption, the idea that the semantics of at least *some* verbs have been acquired without relying on syntax" and that the "semantic bootstrapping hypothesis is agnostic about *how* children have attained knowledge of these word meanings" (Pinker 1994: 386; emphases in the original).

On the other hand, there is the "syntactic bootstrapping" proposal (Landau and Gleitman 1985) which in essence turns semantic bootstrapping on its head. It shows how syntax might be used to discover meaning. The language learner is assumed to observe in each case the real-world situation, but also the structure in which various words appear in the speech of parents or caretakers that is used in reference to the given real-world situation (Gleitman 1990: 30). So once the child knows some nouns he or she does not rely on prior semantic knowledge but rather uses the syntactic contexts (subcategorisation frames) in which verbs appear to work out their meanings. It is important to stress that, while they begin their explanations at opposite ends, the two theories are not necessarily rivals but should rather be seen as operating in a complementary fashion. However, both hypotheses are controversial and, due to their reliance on an innate grammar, rejected by those who adopt a cognitive-functional approach.

While the approaches portrayed above generally embark on different strategies of explaining verb acquisition, the verb-island hypothesis has also been challenged from among fellow constructivists. Based on a recent longitudinal study, McClure et al. (2006), for example, find evidence for the fact that, although they build up grammatical structure in a lexically specific way, children at the same time seem to have weak or partial representations that are not necessarily verb-specific. As pointed out by the authors, the study's findings are "inconsistent with a strict version of the Verb Island hypothesis" but they are "consistent with more recent lexical constructivist

formulations, which accept that grammatical structure does not revolve exclusively around verbs" (2006: 716). Keren-Portnoy also opts for a weaker version of the verb-island hypothesis stating that "syntax learning is item based, but […] the different items do not form isolated and insulated bits of stored information" (2006: 513). Instead, Keren-Portnoy argues, it becomes increasingly easier for children to learn new items if they are of the same kind as those already stored in an early developing system/network. Thus, practice plays an important role in Keren-Portney's model. According to Goldberg et al., the level of specific verbs plus their arguments slots, *i.e.* the "verb islands", plays an initial role in the process of generalisation, but later on it is the level of constructions that becomes more important: "[…] because the argument frame or construction has roughly equivalent cue validity as a predictor of overall sentence meaning as the morphological form of the verb, and has much greater category validity" (2005: 424).

Finally, it should be noted in passing that other researchers who are more interested in the acquisition of the lexicon *per se* time and again also suggest that verb meanings are harder to learn than noun meanings: a verb often labels an event even before the action has occurred; verb meanings are often less restricted than those of nouns; a verb's meaning is relational; and the events labelled by verbs "are comprised of components like manner (*walk* vs. *swagger*), instrument (*hammer*, *shovel*), path (*ascend*, *descend*), and result (*open*, *break*) […]" (Michnick Golinkoff and Hirsh-Pasek 2006: 5). Fisher (1996: 41) refers to yet another verb-specific feature which may complicate the acquisition of verb meaning: verb meanings are not simply labels of categories of events; they are far more complex than object labels in that they also include a speaker's choice of perspective on events.

So no matter whether one approaches the problem from a syntactically- or semantically-oriented starting point, the acquisition of lexical verbs together with their complex and multifaceted argument structures is undoubtedly understood to impose a likewise important and difficult task on the language-learning child. If on few other points, the different groups of theorists agree at least on this one.

2.2.3 Construction grammar and the usage-based model

The developmental model, as described in the previous section, is based on a cognitive-functional approach. Out of a variety of frameworks that come under this generic term in the literature two are especially important to the present discussion: construction grammar and the usage-based model.

The "label" construction grammar subsumes a whole family of related grammatical theories characteristic of which is the attempt to incorporate the cognitive and interactional foundations of language. Most notably, its historical roots go back to the works of Charles J. Fillmore (e.g., Fillmore 1982, 1988) and George Lakoff (1987). By now, the term "construction grammar" denotes a fully-developed framework, with an established structure and representation scheme as well as a solid cognitive and functional foundation. The appeal of construction grammar as a holistic framework lies in its commitment to treat all types of expressions as equally central to capturing grammatical patterning (*i.e.* without assuming that certain forms are more central or peripheral than others) and in viewing all dimensions of language (syntax, semantics, pragmatics, discourse, morphology, phonology, prosody) as equal contributors to shaping linguistic expressions.[9]

Languages in this framework are not thought of as being composed of lexical items plus abstract rules for their assembly; rather, "grammar is seen as a continuum ranging from isolated words to complex grammatical assemblies" (the grammar-lexicon continuum – see Diessel 2004: 16ff). Like generativist linguists, constructionists are interested in speakers' competence but their central claim differs decidedly from generativist theory: "[…] knowledge of language does not consist of a set of unrelated item-based facts, but is instead a rich interconnected network, containing both specific and general knowledge" (Goldberg et al. 2006: 3). The role of grammatical constructions – conventionalised pairings of form and function/meaning – is emphasised in the current view of grammar: "Linguists have observed that within a given language, formal patterns correlate strongly with the meanings of the utterances in

[9] The current study favours the "Goldbergian/Lakovian" type of construction grammar which aims, above all, at psychological plausibility, emphasises experimental results and parallels with general cognitive psychology. It also draws on certain principles of cognitive linguistics and prefers the usage-based model. Another conceivable approach would have been Fillmore and Kay's Construction Grammar (1993) where the focus is on the formal aspects of constructions and which makes use of a unification-based framework.

which they appear" (Goldberg 2006: 71). Grammatical constructions are therefore considered to be the basic units of grammar (Goldberg 2006; Diessel 2004). It is argued that what is reflected by simple clause constructions such as, for example, the ditransitive construction are scenes that are essential to human experience (Goldberg 1995: 5). Chomskyan generative grammar, in contrast, abandoned the notion of construction altogether: "The notion of grammatical construction is eliminated, and with it, construction-particular rules" (Chomsky 1995: 4). However, for constructionists it is the eventual mastery of the whole network of linguistic symbols/constructional schemas that reflects mature linguistic competence. Consequently, in relation to language acquisition, what is being acquired is not "a" grammar or "the" grammar of a language, but an inventory of more or less complex and more or less flexible linguistic constructions (compare Langacker 1987, 1991). From a more methodological point of view it is important to bear in mind another conclusion drawn from the construction grammar approach, namely that, if it is an inventory of constructions (not unlike an inventory of lexical items) that is acquired, then the process of syntactic development should be approached in a way similar to addressing lexical development (compare Tomasello 1998).

It is not surprising to see that once again the verb receives particular attention: "[…] I explore the idea that *argument structure constructions* are a special subclass of constructions that provides the basic means of clausal expression in language" (Goldberg 1995: 3; emphasis in the original). According to Goldberg (1995: 16), the meaning of any expression in language emerges from integrating the meanings of the lexical items (here: verbs) into the meanings of constructions (here: verb-argument constructions). In other words, "[a] construction is associated with a specific meaning independent of the lexical expressions it includes" (Diessel 2004: 17). The acquisition of verb argument constructions is thus an important tool for verb learning: "Verbs can occur in multiple syntactic environments and encode different meanings depending on the construction in which they occur. Therefore, verbs are not always as reliable a cue to sentence meaning as are constructions" (Kidd et al. 2006: 103). As pointed out above, one of the main claims made by the current approach is that languages are learned using general cognitive abilities. It is argued that all speakers arrange all the instances of language use that they encounter into categories: "Verb-centered categories are

categorized together, ultimately resulting in general, abstract argument structure constructions" (Goldberg 2006: 59). Children's usage of verbs has been shown to be very conservative at first (e.g., Tomasello 1992; Lieven et al. 1997; Howe 2002), but eventually the process is the same: step by step (more) abstract argument structure constructions emerge (e.g., Berman 1998; Clark 1998; Tomasello 2003; Savage et al. 2003; Goldberg 2006).

Although construction grammar and the usage-based model are principally independent frameworks, linguistic analyses often combine the two (e.g., Langacker 1987; Goldberg 1995, 2006; Cameron-Faulkner et al. 2003; Abbot-Smith and Behrens, forthcoming). The term "usage-based model" goes back to Langacker who shaped it in connection with his cognitive grammar approach of which he says: "Substantial importance is given to the actual use of the linguistic system and a speaker's knowledge of this use; the grammar is held responsible for a speaker's knowledge of the full range of linguistic conventions […]" (1987: 494). Set up as a non-reductive approach to linguistic structure (ibid.), the usage-based model is a psycholinguistic theory in which grammar is seen as a dynamic system that is moulded by the psychological processes involved in language use:

> […] the general cognitive capabilities of the human brain, which allow it to categorize and sort for identity, similarity and difference, go to work on the language events a person encounters, categorizing and entering in memory these experiences. The result is a cognitive representation that can be called a grammar (Bybee 2005b: 2).

It is one of the central assumptions of the usage-based approach that the representation of linguistic elements correlates strongly with frequency of occurrence: "Because the system is largely an experience-driven one, frequency of instances is a prime factor in its structure and operation" (Kemmer and Barlow 2000: x). Thus, accounting for, above all, frequencies and distributions in actual language use, usage-based research draws theoretical conclusions from the examination of large corpora of naturally-occurring language (spoken or written). Such an approach distinguishes the usage-based model sharply "from other approaches in which frequency is an insignificant artefact, unconnected with speakers' linguistic knowledge" (ibid.). The present study with its aim to analyse the use and distribution of verbal constructions in a corpus of children's storybook texts falls in the usage-based category.

Usage-based approaches to language acquisition attempt to characterise children's language not in terms of innate, adult-like, formal grammars, but rather in terms of the cognitive and communicative processes involved in language comprehension and language production. With regard to child language the following aspects of usage-based approaches are of particular interest: firstly, the importance assigned to the frequency (of instances) in the organisation of the linguistic system and, secondly, the role assigned to learning and experience in language acquisition. Since instances of producing and understanding language are of central importance to the structuring of the linguistic system in a usage-based model, they must be especially significant in the acquisition of language, when the system is in the process of taking shape. Thus, usage-based models place learning at the forefront of language acquisition.

As within other areas, usage-based researchers of child language acquisition base their theoretical conclusions on the examination of large corpora of naturally occurring "language in use". In practice, two different methods of data collection are carried out: the recording of children's spontaneous speech (observational data) or of speech elicited from children while or after exposing them to specific linguistic material (experimental data). The data collected by each of these methods is used to specify, on the one hand, which aspects of children's language are generated on the basis of concrete linguistic items and structures and which aspects of their language are generated on the basis of abstract linguistic categories and schemas and, on the other hand, at what age children may actually start operating with generalisations across the individually learned constructions.

2.3 Constructions in child language: How to "get from here to there"

Children's earliest linguistic productions have been found to revolve around a fairly limited number of concrete linguistic items and structures which may vary in both their complexity and their abstractness but appear to be by no means interrelated in the early stages of acquisition (e.g., Bavin and Growcott 2000; Clark 1996; Savage et al. 2003; Tomasello 1992, 2003). The initial production of argument structure patterns, *i.e.* verb constructions, comes across as being very conservative in that children stick closely to the structures they have heard used with particular verbs. Theakston et al., for instance,

interpret the outcome of a study on the acquisition of "mixed" transitive verb-argument structure[10] as follows:

> […] it is the statistical properties of the input rather than an abstract understanding of grammar which determines children's early acquisition and use of argument structure with mixed verbs. […] The fact that some verbs are used by the children exclusively in the intransitive frame merely reflects the same pattern of use in the input (Theakston et al. 2000: 127f).

Similar findings regarding children's early verb usage are reported by, e.g., Akhtar and Tomasello (1997), Bates and MacWhinney (1987), Bowerman (1982) and Lieven et al. (1997). Ultimately, however, generalisations over specific verbs are made and children start building up the complex network of linguistic structures typical of an adult native speaker. Generalisations become possible once children start combining precompiled linguistic constructions of various shapes, sizes and levels of abstractness.[11]

Despite a general agreement that at some point the child clearly has to move from the early learned instances towards more general linguistic representations, researchers of all backgrounds still struggle to even rudimentarily account for this process in development (*i.e.*, the steps it involves and the order in which it might take place).[12] Many different procedures may be used to combine the established constructions, leading some researchers to openly acknowledge "that language acquisition and development cannot be explained by any single kind of mechanism, and that multiple factors must be taken into account in order to explain the process" (Berman 1998: 460)[13]. Nevertheless, according to Tomasello, the construction grammar framework offers certain advantages here:

> Construction grammar provides a way of looking at language development as a whole – not just 'core grammar' – and, moreover, it provides a plausible way of

[10] "Mixed verbs are those which may take an optional direct object argument" (Theakston et al. 2000: 120).

[11] Note that, while it is often said that generalisations emerge rather late (at the age of 3 to3;5 years), Goldberg suggests "that in fact, argument structure generalizations over verb-centered instances emerge gradually from very early on" (2006a: 59-62). Budwig et al. also argue in favour of an earlier onset of generalisations stating that "in between item-based usage and adult-like generalizations may lie an extended period of development in which children generalize verbs based on a variety of interim solutions (2006: 181).

[12] In generative literature, this question is widely referred to as the "linking problem", *i.e.* the problem of linking the abstract categories of the innate universal grammar to the particulars of the particular language being acquired.

[13] For a more detailed portrayal of the interplay of various factors in language acquisition, see also Berman's phase-based model of language development which considers "linguistic, cognitive, *and* social forces as shaping the path from becoming a 'native speaker' to being a 'proficient speaker' (and/or writer) of a given language" (2004: 9ff; emphasis in the original).

> accounting for the ontogenetic progression from more concrete to more abstract linguistic structures (Tomasello 1998: 440f).

The construction grammar view maintains that, initially, children attempt to memorise more or less whole linguistic constructions which are large, but concrete instead of learning linguistic elements which are small and abstract: "Smaller elements are extracted from these wholes as children discern the function being played by different linguistic constituents within the construction as it is expressed in a particular communicative act" (Tomasello 1998: 439).[14] Regarding the acquisition of verbs or verb-argument structure, two of Goldberg's hypotheses seem of notable importance: firstly, the fact that neither the construction alone nor the meaning of the lexical verb on its own is enough to explain sentence meaning (1995: 11f) and, secondly, the systematic generalisations across and the organisational principles among constructions (1995: 67ff). While the first one indicates how the acquisition of form and meaning/function go hand in hand, the second hypothesis may help to explain how children eventually manage to converge on the full set of linguistic constructions that is available in their mother tongue and how/why this process, which in the past has often been seen as futile, is possible on the basis of input language.

Nevertheless, the question of how, by and by, children move beyond their individually-learned verb frames remains yet to be answered. The observation of child language brought forth the formulation of some developmental phases nearly all children are said to pass through. They tend to start off with "holophrases" – single linguistic symbols functioning as whole utterances: "The child's attempt is […] not to reproduce one component of the goal-directed communicative [adult] act but rather the entire goal-directed act, even though she may only succeed in producing one element" (Tomasello 2000b: 65). What is inherent in this kind of statement is the idea that a child's first (and also later) communicative intentions are understood as being socially grounded. Thus, translated into the storybook-reading scenario a mother's reading of the sentences:

[14] In contrast to the then common assumption of "language development to follow an orderly progression from most simple to most complex" (Tomasello 1998: 561) Peters (1977, 1983) already showed that there are alternative routes. The examination of one boy's language development led her to believe that he indeed used at times an analytic, *i.e.* "from the parts to the whole", learning strategy, but also, at different times, applied a strategy which Peters termed *Gestalt* speech: "from the whole to the parts". Both, she argued, served different functions and were more or less dominating at different times in development.

"He played where they were fixing the street and got very dirty."
"He played at the railroad and got even dirtier."
"He played tag with other dogs and became dirtier still."
"He slid down a coal chute and got dirtiest of all."[15]

might prompt the young child to point at the pictures of the dirty dog one by one simply saying *Dirty!* or, in a more "advanced" fashion *More dirty!*, but meaning 'The dog is getting dirty/ier'. Different types of holophrases are found in early speech. Besides single "adult" words there may be so-called "frozen phrases" that are learned as holophrases but will at some point be broken down into their constituent elements, e.g. *Lemme-see* (Tomasello 2000b: 65f). What follows in a next step are early multi-word combinations. Their structure is still of a very simple and repetitive kind with variation in the majority of exemplars restricted to individual words (indicated by X): *Where's X?*, *I want X*, *That's X*, *Put X here*, etc. (examples taken from Tomasello 2000b). Such child utterances with so-called open slots are often referred to as (utterance) schemas (Lieven et al. 2003; Tomasello 2000b; also in line with Goldberg 2006 and Langacker 2000). One type of combination commonly serves to express different pragmatic concepts. Since many of these early multi-word combinations contain verb forms, Tomasello (1992) hypothesised that children's early grammars could be characterised as an inventory of utterance schemas/lexico-constructional pairings which, to a large extent, revolve around verbs (the so-called verb-island constructions). In similar studies of a number of languages other than English this kind of item-based/verb-based organisation of early child grammar has likewise been accounted for.[16]

In essence, children have to solve a two-fold problem: they must generalise across their individually-learned instances of language but, at the same, time they must constrain their generalisations, since not every verb-argument construction is equally productive. In order to be able to develop more abstract linguistic categories and schemas, children must have multiple experience of linguistic structures, *i.e.* frequent exposure to robust data over an extended period of time (Diessel 2004: 39). If, as Goldberg (1995: 39) argues, the basic meanings of syntactic constructions are directly

[15] The four sentences are taken from *Harry the Dirty Dog* by Gene Zion (1956) [Text CB 25 in the CSB corpus].
[16] Of most notable importance are the works of Dan I. Slobin (e.g., Slobin 1985, 1994, 1996) and Ruth A. Berman (e.g., Berman 1982; Berman and Armon-Lotem 1995) in this area, but see also Allen (1996) or Behrens (1998), for example. Compare Tomasello (2000a: 157, Box 1).

linked to actually and repeatedly occurring events, children's experience with language establishes a direct connection between linguistic input (verb-argument constructions) and real-world "who does what to whom"-scenes. The learning and categorising of verb-argument patterns is therefore well-motivated. It has been shown that children, even in their first months of life, are able to form categories based on different stimulating properties (e.g., perceptual or relational; see Goldberg 2006: 4 for a detailed overview). Linguistic constructions are categorised on the basis of similarities of form and/or meaning: two constructions are more closely related if they share a significant number of features (Diessel 2004: 19).[17] It is argued that children, through the exposure to many exemplars of similar utterances, extract commonalities of both form and meaning between constructions (the so-called process of making analogies; see below for a more detailed description) and so devise their first syntactic categories (e.g., Diessel 2004, 2005; Goldberg 2006a, b; Tomasello 2003). Note, however, the following restriction:

> Neither children nor adults categorize randomly or completely. […] Exactly which categories are formed is determined to a great extent by the usefulness of a potential category. […] Function plays an obvious and important role in determining what is categorized […] (Goldberg 2006: 4f).

Thus, it can be stated that the function of particular linguistic constructions is assumed to be important for categorisation processes. Apart from its function, the relative frequency with which a construction normally appears plays a decisive role in forming generalisations. Based on one of the central assumptions of the usage-based approach, namely that the representation of linguistic elements correlates strongly with their frequency of occurrence (Diessel 2004: 23), the notion of entrenchment thus comes into the picture: "The more frequently children hear a verb used in a particular construction (the more firmly its usage is entrenched), the less likely they will be to extend that verb to any novel construction with which they have not heard it used" (Tomasello 2003: 178).[18] Although to my knowledge so far uncredited in the field of language acquisition

[17] It is important to note that the similarity between the members of a category is not an absolute unit; rather, it is gradient. Conform with Prototype Theory (Rosch 1973), the cognitive approach in which construction grammar is embedded allows for graded and sometimes inconsistent (regarding the status of their members) categories. Whether or not categories revolve around a certain prototype (e.g., *give* +NP+NP as the most prototypical exemplar of the ditransitive construction) that is acquired earliest and easyist is still widely debated (e.g., Goldberg 2006; Ninio 1999).

[18] Apart from its entrenchment effect, the high frequency of particular verbs in particular constructions is assumed to facilitate the learning of both the verbs and the constructions by "children's unconsciously

theories, Hoey's (2005) theory of lexical priming could also be of interest in this respect. Albeit mainly aiming at a new theory of the lexicon, Hoey's approach comes close to the above-mentioned notion of entrenchment. One of its principal claims is that with the acquisition of a word the contexts and co-texts in which the word is encountered are also memorised: "Every time we use a word, and every time we encounter it anew, the experience either reinforces the priming by confirming an existing association between the word and its co-texts and contexts, or it weakens the priming […]" (Hoey 2005: 9).[19] Among other things, words are primed to occur in certain grammatical positions, grammatical functions and grammatical structures (2005: 13). The idea is that eventually "the mind has a mental concordance of every word it has encountered, a concordance that has been richly glossed for social, physical, discoursal, generic and interpersonal context" (2005: 11). In my opinion, Hoey's approach is certainly of interest for future research in child language acquisition.

Despite early entrenchment most children, at a certain point in development, tend to overgeneralise grammatical constructions either morphologically (e.g., *goed* instead of *went*; *more good* instead of *better*) or on the basis of argument structure (e.g. *I disappeared it*.). In an attempt to explain how children avoid or recover from such overgeneralisations, Brain and Brooks (1995) merge the idea of entrenchment with the notion of statistical preemption: "Preemption is essentially the idea that if a child has learned to use a particular linguistic form to express a particular meaning, this knowledge will tend to block their usage of another form to express the same meaning" (Brooks et al. 1995: 1326). Statistical preemption requires children's reliance on indirect negative evidence, that is, on what is found and is not found in the input: "Only upon repeated exposures to one construction in lieu of another related construction can the learner infer that the second construction is not convenient" (Goldberg 2006: 98).[20]

What further helps to constrain a pattern's productivity – besides its degree of entrenchment (*i.e.*, its token frequency) and preemption – is its type frequency and its degree of openness (Goldberg 2006: 93f). A given syntactic pattern's type frequency is

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establishing a correlation between the meaning of a particular verb in a constructional pattern and the pattern itself, giving rise to an association between meaning and form" (Goldberg 2006: 79).

[19] In line with Hopper (1987), who developed the notion of emergent grammar, Hoey thus views grammar as shaped through the repeated use of lexical items or strings.

[20] For other explanations of overgeneralisations see, for instance, Pinker (1984, 1989) on semantic constraints and Howe (1993, 2002) on the countering of overgeneralisation.

determined by the absolute number of distinct items that occur in it. It is argued that children are more likely to extend an argument structure construction that they have heard used with many different verbs than one that has only appeared with very few verb types in their input (Goldberg 2006: 98ff). The degree of a pattern's openness is characterised by the semantic variability of the items that occur in it: "Constructions that have been heard used with a wide variety of types are more likely to be extended broadly than constructions that have been heard used with a semantically circumscribed set of types" (ibid.).

To summarise what has been said so far, overall the frequency of occurrence of individual linguistic patterns, which affects all of the above-mentioned factors, has been found to play one central role in category formation in that the frequent hearing of (prototypical) instances facilitates category learning (compare, e.g., Diessel 2006; Goldberg et al. 2004; Theakston et al. 2004, 2006). Together, the concepts of entrenchment (token frequency), preemption, type frequency and degree of openness of syntactic constructions constitute a dense network of intertwined cues from which the language-learning child can benefit on its way to generalising beyond individually-learned instances of verb-argument constructions. However, it is important to emphasise that input frequencies are not taken to be the only factor to influence children's early language and their beginning grammatical abstractions.[21] The degree of actual influence as much as the question whether the given factors are together sufficient certainly remains a question for future research.

Even if we let this question rest for now, we are left with another equally important uncertainty, namely: can infants, considering their confined cognitive skills, actually perform the task of picking up these cues and arriving at more abstract linguistic categories? Assuming for a moment that this first question is answered affirmatively, we might go on asking: what kind of skills are involved? Although it is still far from clear how exactly children "get from here (concrete linguistic items) to there (abstract linguistic representations)", a number of general psychological phenomena regarding these questions are now repeatedly discussed in the literature and

[21] A number of other possible facilitating effects regarding the acquisition of verb-argument structures and their abstraction have been proposed in the literature. Among them are "semantic similarity of verbs" (e.g., Ninio 2005), "semantically general (or 'light') verbs" (e.g., Pinker 1989; Ninio 1999) and "pathbreaking (or prototypical) verbs" (Ninio 1999). In the current work, I will take up these aspects and their implications in Chapter 6.3.

tested for in experimental studies. Children's skills of intention reading as one type of social/cultural learning are believed to lie in the heart of the matter. Near the end of the first year of life the way children relate to other persons changes: it is then that a growing awareness of both other people's linguistic and non-linguistic intentions emerges (Tomasello 2003: 19ff). As one form of cultural learning, imitative learning seems to be playing an important role; it is understood as "the attempt by children to reproduce the language adults produce and for the same communicative function – the reproduction is of both the linguistic form and its conventional communicative function" (Tomasello 2000a: 161). This type of theoretical approach puts even children's earliest linguistic skills directly in line with their other social and cognitive skills and is thus far more psychologically-based than any of its historical forerunners or current competitors in the area. Tomasello sums up the first important step in children's language development as follows:

> And so, the foundational process of language learning is hearing an adult utterance, reading the communicative intention embodied in that utterance, segmenting that communicative intention in component parts (in most cases), and storing the comprehended utterance and components. This is how all concrete pieces of language must be learned if they are later to be used conventionally and creatively in novel communicative circumstances (Tomasello 2003: 297).

Naturally, this can only be the beginning. Later on, on the route to more abstract categories of language, the aforementioned process of analogy making (or "pattern-finding") becomes important (Tomasello 2000c: 240), that is, children's attempt to make analogies over their lexically specific knowledge by discerning similarities of both form and function between the previously learned, but separately stored units of language and so gradually building up an inventory of linguistic constructions. The process is very much like the process of forming (utterance) schemas, just that analogies are more abstract: "Thus, whereas all instances of a particular item-based schema have at least one linguistic item in common (for example, the verb in a verb-island schema), in totally abstract constructions (such as the English ditransitive construction) the instances need have no items in common" (Tomasello 2003: 164). That children indeed possess the cognitive skills of making analogies over complex relational structures quite readily at an early age has been repeatedly shown in non-linguistic as well as in linguistic studies by Gentner and colleagues (e.g., Gentner and Markman 1997; Gentner et al. 2001; Rattermann and Gentner 1998). Analogising across utterances and

significant utterance constituents and so slowly building up a repertoire of syntactic constructions is considered the most fundamental process in the acquisition of abstract grammatical competence (Tomasello 2003: 299). The majority of research on children's syntactic development has focused on their acquisition of a singular construction such as the simple transitive (e.g., Brooks and Zizak 2002), the datives (Campbell and Tomasello 2001) or the passive construction (Israel et al. 2000). Somewhat broader investigations are slowly emerging, however: Lieven et al. (2003) looked at one child's early syntactic creativity, tracing the child's development of all her intelligible multi-word utterances over a period of six weeks from her second birthday onwards.[22] Dąbrowska and Lieven (2005) investigated the development of children's syntactic questions on the basis of speech recordings of two English-speaking children whose spontaneous language was taped on relatively dense intervals at ages 2;0 and 3;0. Both studies conclude that the built-up of more abstract constructions is a very slow and gradual process that is mostly characterised by extension or modification of well-established previous existing patterns that seem to be lexically-based.

If we assume that children use such general-cognitive learning mechanisms as those described above – in whatever way and to whatever extent – to induce a grammar, it is obvious that they need sturdy and sufficient data to work with. Thus, the linguistic environment – in Chomsky's view merely a trigger – in which children grow up, is assigned a major role in the process. Consequently, it comes as no surprise that, within the constructionist/emergentist framework, the input language is argued to provide more than adequate means by which learners can induce the association of meaning with certain argument structure patterns. In the following section, I will discuss in how far the properties of the ambient language are taken to be influential in a child's developmental trajectory. In particular, I will be looking at a number of fairly recent "input studies" and consider their findings.

2.4 "What they hear is what you get": The role of input language

Although an interest in the nature of adult speech to children (often referred to as "child-directed speech" or, short, CDS) and its possible implications for the language-learning process arose already in the 1950s, the accumulation of information about both

[22] Similarly, Lieven (2006) traces the long-term development of multiword utterances of four children.

was fairly slow until the mid 1970s. Since then, a vast amount of data has been collected and analysed as will become evident in the present chapter. Snow (1995: 3) states that "[it] has become standard even in research directed primarily to analyses of children's own output to incorporate analyses of how their interlocutors are talking to them". Clearly, the advent of the notion of speech acts (Austin 1962; Searle 1969; Grice 1975) led to a growing awareness of the importance of the communicative intent of the speech of both parents and their children (Sokolov and Snow 1995). With the realisation of the significance of language in use came a shift in perspective: increasingly, child language researchers started looking at the child as a communicative human being and studying conversational interactions rather than isolated pieces of language (ibid.). Like the nature of input language itself – realistically, it is probably best seen as a mixture of varying proportions of language from father, mother, siblings, other relatives and caretakers (Richards and Gallaway 1995) – the relationship between linguistic input and the process of language acquisition is complex (Pine 1995) and as yet not fully accounted for.

2.4.1 The form and function(s) of input language

The cognitive-functional approach itself attaches great importance to each individual child's input language. The widespread assumption is that child language, especially in its earlier stages, closely mirrors the structures of parental or caregiver speech to which a child is exposed most frequently. Input language forms the basis upon which language learning is possible: "[…] the linguistic environment provides the raw materials out of which young children construct their linguistic inventories" (Tomasello 2003: 110).

In generative linguistics, it has been claimed that the ambient language does not provide sufficient information to extract grammatical categories and constraints from the input. This has become known as the argument of the poverty of the stimulus, which is perhaps among the best-known arguments in favour of linguistic nativism. Though Chomsky reiterated the argument in a variety of different manners, it can be summed up as follows: there are patterns in all languages that cannot be learned by children using positive evidence (*i.e.*, the set of grammatical sentences a child has access to by observing the speech of others) alone. Negative evidence (*i.e.*, an adult correcting a child's speech) is rarely available to children – they are only ever presented with

positive evidence for particular syntactic patterns. Chomsky therefore concluded that children must be endowed with an innate universal grammar.

As pointed out above, this view has been challenged in recent corpus-based studies of the ambient language that children hear (e.g., Ambridge et al. 2006; Blom et al. 2000; Cameron Faulkner et al. 2003; Dąbrowska and Lieven 2005; Diessel and Tomasello 2001; Huttenlocher et al. 2002; Lieven et al. 2003; Mintz 2003; Naigles and Hoff-Ginsberg 1998; Ninio 2005; Theakston et al. 2002, 2005; Tomasello 2000, 2003, 2005). What all of these studies have shown is that there is much more information in the input than hitherto believed and that children seem to be able to make use of this information. Several characteristics of the input have been discussed in the literature the most prominent and presently most investigated of which are distributional cues and frequency effects.

Let us first consider distributional information. The term "distributional information" refers to information about the linguistic contexts in which a word occurs. The idea is that speakers categorise words based on their co-occurrence patterns with surrounding words. Investigating large corpora of speech directed at young children (aged 2;6 or younger), Redington et al. (1998), Mintz et al. (2002) and Mintz (2003) showed that this type of input can provide enough distributional information to induce, at least roughly, the major grammatical categories "noun" and "verb". Additional information such as referential properties of words (semantic information), morphological markings or rudimentary knowledge about syntax is assumed to assist in the process of distributional analyses (Mintz et al. 2002: 418ff). Lieven et al. (1997) discussed the implications of widespread distributional learning in early language development arguing that their investigation of eleven children's (aged between 1;0 and 3;0) speech samples supports a view of structure as emergent. Regarding the question whether infants are actually able to compute the available data accordingly other recent experimental studies suggest that children are indeed extremely talented in detecting distributional patterns (Jusczyk 1997; Saffran 2001; Saffran et al. 1996). It therefore seems reasonable to assume that frequency of occurrence might be one of the key elements in grammatical development.[23]

[23] See also a recent study by Ambridge et al. (2006) that I will turn to at the end of the present subsection.

Distributional cues are especially useful for the categorisation of high frequency items, that is, items that children encounter many times in the same syntactic (and often also situational) context. This leads us to the second important factor, namely frequencies of occurrence, which was already introduced in the previous subsection. More generally speaking, frequency effects were found to influence languages in several ways and on various levels. First of all, frequency is seen as a plausible driving force of phonetic reduction (Bybee and Scheibman 1999). Furthermore, in a number of studies, frequency was shown to play an important role in the process of grammaticalization, *i.e.* in the development of new linguistic forms (e.g., Bybee 2003; Hoffmann 2005; Traugott and Heine 1991) but, interestingly, it was also found to have a conserving effect protecting high frequency words and structures from analogical change (Bybee and Thompson 1997; Bybee 2006). These studies presume once more the by now familiar view of grammar as being highly impacted by language use: "[…] grammar is the cognitive organization of one's experience with language, and facets of that experience, for instance, the frequency of use of certain constructions or even of particular instances of constructions […]" (Bybee 2005: 1). In order to be able to account for frequency effects one needs to operate with a dynamic model of grammar in which linguistic structure is grounded in language experience and which challenges the rigid division between grammar and language use. It is obvious that such a view of grammar does not just sit well with the cognitive-functional (emergentist) model of language acquisition, but is indeed implemented in it:

> If children learn language based on distributional regularities and build up their knowledge of argument structure gradually beginning with lexically-specific frames, those structures used most frequently (tokens) and with the greatest number of exemplars (verb types) are more likely to be acquired early because they are frequent and highly generalizable (Theakston et al. 2001: 149).

Thus, on the one hand, the relative occurrence of the same or similar patterns in the input is seen to influence the structure of emerging child language and, on the other hand, it is taken to be a facilitating factor in the learning process (Goldberg et al. 2004; Goldberg 2006). Attending to both distributional information and potential frequency effects (including the identification of other probable relations between properties of the input and the language children produce) requires an accurate and detailed analysis of the input so as to gain meaningful insights in this area. In particular, researchers on the side of a cognitive-functional approach to language acquisition claim, it is possible to

develop more psychologically realistic theories of early verb acquisition on the basis of a careful representation of the language children actually hear (Theakston et al. 2004: 93). An overview of the recent literature in this field evinces that this line of thought has already been taken up so that, at present, a fair amount of studies committed to this purpose – so-called input studies – *de facto* exist. In what follows I will review some of these and allude to their most important findings.

The question whether the way individual parents speak to their children influences children's language development is, of course, not new. Studies dating back to the 1970s already dealt with this issue trying to establish in how far children's early language is a more or less direct reflection of the language they hear (supporting the learning hypothesis) or rather is following a similar developmental path independent of what they hear (supporting the universal grammar hypothesis).[24] However, virtually all of the early studies investigated adults' and children's language on a relatively abstract level, *i.e.*, in terms of adult syntactic categories and constructions: noun phrases, verb phrases and the like. In contrast, a growing body of research has now adopted a more child-centred perspective in that it investigates, on a far more concrete level of analysis, the particular grammatical words and phrases adults use and how these are related to what children learn.

One of the first to work along these lines was DeVilliers (1985) who looked at samples of spontaneous speech from two young children (aged 1;6 to 1;11 and 2;3 to 2;8, respectively) and their mothers in order to determine predictors of the children's range of grammatical use of particular verbs. Her overall finding was that both children's speech mirrored closely the patterns of use found in their mother's speech: verbs that received varied use (in the kinds of complements they take) in parental speech were most likely to receive varied use in the child's speech. De Villiers concluded that "it is the nature of the input they receive […] that constrains the children's patterning of the verbs" (1985: 594). Examining Valian's (1991) claim that intransitive frames are easier for children to produce early in development Theakston et al. (2000) investigated data from four children (aged 1;9 to 2;0) and found that none of the four children demonstrated an overt preference for the simpler intransitive frame. Instead a comparison with the input data revealed that "these children use the vast

[24] See, e.g., Furrow et al. (1979); Newport et al. (1977); Snow and Ferguson (1977).

majority of their early mixed verbs in the same frame as are found in the input" (2000: 127). Children's early acquisition and use of argument structure with mixed verbs thus seems to be determined by the statistical properties of the input rather than by an abstract knowledge of transitivity frames (128). A similar study based on the data from nine children (aged 1;10 to 2;0) confirmed these findings (Theakston et al. 2001). Campbell and Tomasello (2001) likewise found that the best predictor for children's use of English dative constructions (the double-object dative, the *to* dative and the *for* dative) is parental usage. This is not only true on the level of syntactic frames, but also for the lexical verbs that were used within the dative constructions (2001: 259f).[25] And Goldberg et al. (2006), following the findings of an earlier study (Goldberg et al. 2004), attribute the fact that child language is often characterised by the predominant usage of a restricted subset of semantically general verbs such as *go*, *put* or *give* to similar findings in input language: "[…], the argument structure constructions children hear tend to be skewed disproportionately towards a single verb, even when they potentially occur with a much broader range of words or meanings" (2006: 7).[26] All of these studies suggest that there may be close links between the way adults use particular verbs and verb-argument structures in child-directed speech and the way children learn those same verbs and verb-argument structures (Tomasello 2004: 110). The role of the input language should, therefore, no longer be belittled: "Children learn what they hear, and different children hear different things and in different quantities" (ibid.).[27]

The ongoing technological progress in the computational world enables researchers to create more and more longitudinal studies with dense data sets. So, for example, Maslen (2005) analysed the development of one child's use of transitive verbs between the ages of 2;0 and 3;0 based on the boy's naturalistic interaction with his mother during this period. He found that the child's developing language reflects from the beginning, the overall semantic pattern seen in his mother's speech, yet his frame

[25] Of interest in this respect is also Gropen et al.'s (1989) study on the learnability of the English dative alternation. While the authors also attribute certain influences on children's early use of lexical verbs in one or the other dative construction to input language, they find further influential factors. Their overall discussion leads them to develop a two-level model for the acquisition of the dative construction(s).

[26] But note that Goldberg et al. later restrict this statement: "[…], it is not necessary for there to be a single verb with a frequency far greater than other verbs for successful learning to take place. […] This is important because in naturalistic data, there is not *always* a single verb that has far greater frequency than other verbs […]" (2004: 304; emphasis in the original).

[27] See also Lieven (2004[1978]) on the relationship between the language used with children by their primary carers and the language used by the children themselves and on the implications of individual differences.

distributions approach those of his mother only slowly and appear to be influenced in their progress by verb token frequency and stage of acquisition. These findings, it is argued, are consistent with the usage-based view of the development of the transitive construction.[28] Similarly, Theakston et al. (2005) found, when analysing the longitudinal data from eleven children aged 2;0 to 3;0, that the frequency patterns in the input appear to play an important role in the early use and non-use of the auxiliaries *have* and *be*. The same data set had already been investigated to provide a detailed picture of the acquisition of the verb *go*. The corresponding findings suggest that children's early use of different forms of *go* is relatively fix and equals the use of a number of individual verbs, that is, they do not seem to operate with an adultlike representation of one verb *go* even by age 3;0. However, the frequency of use of particular structures and meanings with particular forms of *go* in the input language was once again found to be a good predictor of the children's use of the different forms of *go* (Theakston et al. 2002).

What all these studies propose apart from an apparently close connection between child language and input language is, on the one hand, the item-based nature of early constructions and, on the other hand, the moderate mode in which children seem to move along the acquisitional path. The long-term persistence of unproductive, lexically-specific verb frames accounted for in the data clearly supports the idea of a gradual emergence of more abstract, productive schemas. Further evidence comes from similar analyses of child and parental data that focus on a more advanced level of acquisition: Diessel and Tomasello (2001) examined the development of finite complement clauses in seven children aged 1;2 to 5;2 noticing a predominance of formulaic complement-taking verbs or complement clauses in the children's speech which, they claim, is also very frequent in the parents' data.[29] Huttenlocher et al. (2002) explored four-year-old's mastery of multi-clause sentences on the basis of data collected from 34 children in various contexts of speech. They reported substantial differences between their subjects that they were able to trace back to equal differences found in parent speech. Thus, Huttenlocher et al. were able to show that "a relation of child language to parent input can be observed for syntactic skills that are unrelated to input

[28] Maslen (2005).
[29] Diessel (2004) offers a more expanded overview here, including relative, adverbial and coordinate clauses. Kidd et al. (2005) provide additional insights in the acquisition of complement clauses.

at earlier stages" (2002: 368) and suggested "that different aspects of syntax may show sensitivity to input at differing points in children's language development" (ibid.).

In addition to this type of input analyses and – in many a case – based on their findings, a second set of studies exists: so-called elicitation studies which usually take place in a laboratory setting and require the child to perform a certain, specifically designed language-related task. On the basis of such studies researchers hope to gain insights about the status of children's linguistic representations at certain points of development, or at a certain age, as well as to be able to better determine the level of abstractness of these representations (e.g., Abbot-Smith et al. 2001, 2004; Akhtar and Tomasello 1996; Brooks and Tomasello 1999; Hurewitz et al. 2000; Lidz et al. 2003; Naigles 1996; Naigles et al. 2005; Savage et al. 2003). The overall purpose of these experimental investigations is to demonstrate how children respond to the language material they are offered and use it to induce, for instance, the meaning of a novel construction (Casenhiser and Goldberg 2005). The procedure is construed as a small-scale simulation of the natural situation usually focusing on one particular element of acquisition for which artificial and often exaggerated learning conditions are provided. By way of example, I will now briefly review two fairly recent studies.[30]

Kidd et al. (2006) tested 61 children aged 2;10 to 5;8 on the role of lexical frequency information in both the acquisition of syntactic knowledge and the processing of syntactic structure. The children were asked to repeat finite complement clause constructions manipulated for complement-taking verb frequency and grammaticality. Kidd et al. found that all children, independent of age, produced more exact repetitions of sentences containing high frequency complementizer verbs and were more likely to correct ungrammatical sentences containing high frequency complementizer verbs. They concluded that the relative frequency with which a complementizer verb occurs in a complement clause construction predicted children's ability to remember and repeat sentences instantiating that construction. Kidd et al. state that, even at a very young age, "children keep track of the distributional environments in which individual verbs appear, and annotate this frequency information onto their lexical entries for verbs" (2006: 101). The study is taken to support an account of language acquisition where lexical frequency information plays an important role. In a different study, Ambridge et

[30] Further experimental studies will be discussed in connection with the corpus analyses in Chapters 6-8.

al. (2006) investigated the possible implications of a distributed learning effect, *i.e.* the temporal distribution of exemplars in the input, with respect to children's acquisition of a complex grammatical construction (the object-cleft construction). 48 children aged 3;6 to 5;10 and 72 children aged 4;0 to 5;0 were presented with ten exemplars of the construction either all in one session or distributed over a number of five and ten days, respectively, with the latter schedule resembling closer to the natural input situation. When tested for their ability to produce the construction at the end of the training phase, children who participated in one of the "distributed learning"-groups did significantly better than their fellows. Based on these test results, Ambridge et al. conclude that there is "clear evidence of a distributed learning effect for construction learning" (2006: 186), thus adding one further element to the group of factors that have been hypothesised to influence the formation of abstract constructions (2006: 175; and 2.3 above). Since the distributed learning effect has been found to be at work in many different types of learning in- and outside the linguistic domain, Ambridge et al. go on arguing that learning processes "can plausibly be invoked to explain the acquisition of grammatical constructions" (2006: 187).

To summarise, the corpus-based analyses of input language and child output as well as a number of experimental studies are suggestive of input-driven inductive learning to take place at all stages of development. Evidence from various input studies reveals a strong relation between verb-argument structures found in child language and those found in the speech children are exposed to. While input may affect children at different levels in the course of acquisition, frequency effects almost certainly are at work at all points. That is to say that what is frequently found in parental speech is most likely to be mirrored to a certain extent in child language independent of the construction we are interested in. It remains true, though, that "[m]uch more research is needed to identify which specific aspects of the input are important in the acquisition process, both for English and across other languages" (Theakston et al. 2004: 93). While it goes beyond the purposes of the current study to answer this question, its analyses of the verb-argument structures regarding possible distributional and frequency aspects found in children's storybooks will certainly add to the theoretical knowledge about language input.

2.4.2 Formulaic sequences and language acquisition

Against the background of grammatical theories based on performance rather than competence (see Chomsky 1965), an earlier observed phenomenon (e.g., Jespersen 1924/1976; Firth 1937/1964; Bolinger 1976; Fillmore 1979) is finally granted its deserved attention: the fact "that both written and spoken discourse are characterized by the high use of conventionalized word sequences, which include sequences which we might call formulaic language" (Bybee 2006: 4) is now widely recognised in the field (e.g., Wray and Perkins 2000; Wray 2002; Schmitt 2004). Following Wray (2002: 9), such strings of language, often also called prefabricated, will be referred to as formulaic sequences in the current work. Formulaic sequences may be fully specified utterances such as *What can I do for you?* or concrete utterances including a slot such as *Do you mind if__?*[31] and are "stored and retrieved whole from memory at the time of use, rather than being subject to generation or analysis by the language grammar" (Wray 2002: 9).[32] They form an integral element of cognitive-functional grammars and usage-based models of language which envisage the workings of adult linguistic competence as follows. On the one hand, it is explicitly recognised that human beings – adults as much as children – learn and use many relatively fixed, item-based linguistic expressions. On the other hand, it is argued that people also operate with some highly abstract linguistic constructions such as, for example, the English ditransitive construction or the resultative construction, both of which are based on commonalities in the forms and functions of a multitude of different specific expressions (Tomasello 2000b: 62). And finally, people also control many "mixed" constructions that revolve around concrete and particular linguistic items but are partly abstract as well (ibid.). For example, Cameron-Faulkner et al. (2003) analysed the language of twelve English-speaking mothers regarding the range of utterance-level constructions. Among other things, they found that more than half of the mothers' utterances begin with one of 52 core frames (lexical specific frames such as *Are you…*, *That's a/the/*NAME…, *Come/Look/Let's…*)

[31] Examples taken from Diessel (2004: 21).

[32] Pawley and Syder (1983) in their discussion of nativelike selection and nativelike fluency also talk about "lexicalized sentence stems" and "memorized complete clauses" both of which, they claim, make up a good part of a mature English speaker's linguistic competence/performance and distinguish him/her from a non-native speaker. Although they do not argue in favour of a strict separation of grammar and lexicon, their argumentation broadly goes in the same direction: "[…] any strict compartmentalization would not truly reflect the native speaker's grammatical knowledge if the facts are (as we believe) that lexicalization and productivity are each matters of degree" (1983: 220).

which also occurred regularly in their children's speech.[33] That way, these children heard many of the same instantiations of utterance constructions with open slots over and over again. Their findings, Cameron-Faulkner et al. concluded, contribute "to a growing body of research suggesting that human linguistic competence is based in large part – though obviously not exclusively – on the mastery of a large number of specific linguistic items and expressions" (2003: 870). It can be said then that, even on the utterance level, Goldberg's argument of skewed input seems to be true to a certain extent, "in that utterances tend to be disproportionately represented by instances that involve the same word or set of words" (Goldberg et al. 2006: 7).[34] So what are the implications of this for language acquisition? And what role do formulaic sequences play in child language?

It has already been pointed out before that young children often store and use a string of adult words as a single unit before they become aware of and master its internal makeup. This enables them to be socially integrated and communicate their needs from a relatively early point in acquisition (Wray 2002: 118f). What may appear as an unnecessary storing of redundant data might actually serve a twofold purpose in acquisition: on the one hand, it provides the young child with a "starter kit" of utterances upon which he or she can reliably draw without too much planning and processing effort (Wray 2002: 119; Diessel 2004: 20ff); on the other hand, the child can revert to the stored language material at any (later) point in time to analyse and finally generalise it in order to achieve a more productive level of linguistic performance (Lieven et al. 1992).[35] An example may serve to illuminate this procedure:

If we assume that human beings store concrete and simple or complex symbolic units which can be partially schematic or even wholly schematic, then language acquisition should also involve the acquisition of symbolic units that are both concrete and schematic. Again, the idea that children's early language consists of many rote-learned and/or semi-formulaic chunks is not new. It may, however, play a more central role than formerly acknowledged as Dąbrowska and Lieven (2005) demonstrate. In the attempt to examine if and how children could develop their command over interrogative

[33] The authors included a total of 16,903 maternal utterances in the analysis (2003: 848).
[34] See also, for example, Diessel (2004); Gries et al. (2005); Thompson and Hopper (2001).
[35] Note, however, that these claims do not go unchallenged. According to Bates et al. (1988) formulaic sequences are mere communicational fillers with no deeper purpose. Plunkett (1993) sees in them the temporary product of erroneous segmentation. For an integrating approach see Wray (2002: Ch. 7).

constructions based on the structures available to them in the input language, Dąbrowska and Lieven showed that formulaic questions such as *What's that?* and *Where's THING gone?* which they found in both parental and child language could be used as the starting point for more abstract question constructions by these children. (2005: 461f). The slowly emerging productivity of such fix sequences accounted for in the data is taken as a sign for children's gradual establishment of correspondences between items in different question constructions which first leads to a widening of the semantic range of words used within the open slots and eventually to more abstract question schemas (462). The original formulaic sequences will, of course, also remain part of the children's linguistic repertoire – just like they are part of adult language – but they may have a special value in the course of language acquisition.

In its entire time span, child language contains shifting relative proportions of formulaic sequences (Perkins 1999). Two possible factors are suggested to come into play here. Following Peters (1977, 1983), Wray proposes that the unit of acquisition varies between different children and also at different stages for one and the same child: while "analytic" children focus on word-sized chunks of language and use these as the building blocks for their grammar, "gestalt" children go for longer sequences or whole utterances which they eventually have to break down (Wray 2002: 110ff; compare also footnote 11). The latter are thus likely to have a greater number of formulaic sequences at their disposal at an early age than the former. It might be of no great significance, though, which strategy of acquisition – "part to whole" or "whole to parts" – is adopted if we assume that "young children come equipped to move in either direction […]" (Tomasello and Brooks 1999: 166). As so often, a compromise might come closest to the truth: "All children probably use both processes to some extent in different aspects of language acquisition" (ibid.). A four-phase model, proposed by Wray and Perkins (2000) and modified in Wray (2002), demonstrates how the two processes might coexist in altering proportions in the course of the developmental trajectory. It directly connects the appearance, disappearance and reappearance of formulaic sequences during language acquisition to the different stages of development through which a child goes and due to which either the holistic ("gestalt") or analytic processing mechanism is of

more use to the child. Once the adolescent age is reached, the balance between holistic and analytic processing is reached and equals that of an adult language user.[36]

Whatever the exact workings of the proposed mechanisms may be, the acknowledgment of the existence of prefabricated chunks of more or less concrete linguistic expressions, *i.e.* formulaic sequences, alongside abstract grammatical representations in the grammars of all languages certainly affects our current views of how language acquisition might actually come about and what sort of elements might be involved. Naturally, the present corpus data is just as rife with formulaic sequences of all possible kinds as any other spoken or written language material. Be this on the verb-argument structure level, on which the current study focuses, or on the utterance/sentence-construction level.[37]

2.5 Summary

It cannot be denied that, at this point in time, many questions remain open. Yet, the cognitive-functional, constructionist approach to child language acquisition is a promising new approach. While the above-given details can so far only be regarded as a gentle attempt to once again hypothesise (and give a name to) the still largely unknown processes involved in children's gradually developing mastery of their native languages, it certainly turns upside down the long-dominating view of a Chomskyan innate universal grammar and thus invites us to new and more intensive research in this area. Its emphasising of the role of the verb in language acquisition follows a trend that pervades the whole range of theories in the field of language acquisition. Harder to capture in theory, more difficult to acquire in reality, the acquisition of the multifaceted English verb paradigm still poses a challenge to both researchers and language learners: "The noun is a snapshot, the verb is a moving picture" (Tomasello 1992: 11). The current study will add to the growing body of verb-related studies in the field by analysing and interpreting its distributional patterns in one source of input language: English storybooks.

[36] A detailed description of the four-phase model is found in Wray (2002: 132-135).
[37] Verb-argument structures can be partly formulaic in that they often appear with the same words (e.g., a semantically restricted choice of nouns occurs in the direct object slot) or in that individual verbs are strongly biased towards one of two or more possible types of complementation.

In the next chapter, the significance of shared early storybook reading will be discussed against the background of the role of input language in child language acquisition as outlined in the present chapter. This includes a definition of the term "storybook" as it is used in the current study and a detailed description of my corpus data.

3. Language acquisition: The importance and benefits of early shared book reading

3.1 Introduction

In the previous chapter I emphasised the importance that is ascribed to input language within constructivist/usage-based frameworks of language acquisition. The discussion there centred on spoken language input that children encounter in their everyday lives from day one onwards. The current chapter will be devoted to a very different and highly specific type of input language and the situation in which it occurs: joint picture book reading. After a brief introduction of the topic by way of presenting two different institutions that promote early shared reading, I will review the findings of a number of studies which are concerned with language acquisition and the functions of input language in the context of early shared book reading.

3.2 Early shared book reading in the video/dvd age

At the turn of the century our daily lives are more than ever dominated by the moving image. Be it a television set, a computer monitor or one of the many portable devices, even very young children are regularly exposed to a flickering screen and early on in their lives become passive receivers. Story telling as well as storybook reading form less and less an integral part of a child's life. Noteworthy, though, there is a big difference between the vocabulary level in TV programmes and in a children's book, on the one hand, and between a child's intake and examination of a moving image on a screen vs. a still image in a book, on the other hand (compare Trelease 2001: 17, 69). In what follows, I will present two North-American "institutions" that aim at bringing back the picture book to children's homes and at raising parents' awareness of the importance of shared book reading with their babies, toddlers and pre-schoolers.

A first example of how educators and physicians attempt to make parents aware of the importance of books for children and to encourage them to read aloud to their young kids is the *Reach Out and Read*[38] model, established in 1989 as a non-profit organisation at Boston Medical Center. *Reach Out and Read* makes literacy promotion a

[38] For more information see www.reachoutandread.org.

standard part of paediatric primary care. Doctors and nurses give new books to children at paediatric check-ups from six months to five years of age and advise parents about the importance of reading aloud. Furthermore, volunteers in clinic waiting rooms read aloud to children, showing parents and children the pleasures and techniques looking at books together. By July 2005, more than 2,500 hospitals and health centres in 50 U.S. states participated in the programme which aims at children from six months to five years of age. The overview of the literature on the effects of joint parent-child reading sessions in 3.2 will, among other things, reveal the significance of as early an onset of reading as suggested by the *Reach Out and Read* model, namely while the infant is apparently still in a pre-linguistic stage.

As it turns out, even those parents who still value reading to their children often start the procedure far too late. Consider the following dialogue between a parent (P) and Jim Trelease (JT), author of *The Read-Aloud Handbook*:

> P: "How old must a child be before you start reading to him?" […]
>
> JT: "When did you start talking to the child?" […]
>
> P: "We started talking to him the day he was born."
>
> JT: "And what language did your child speak the day he was born? English? Japanese? Italian?"
>
> JT: "Wonderful! […] You were speaking multisyllable words and complex sentences in a foreign language to a child who didn't understand one word you were saying! And you never thought twice about doing it. But most people can't imagine reading to that same child. And that's sad. If a child is old enough to talk to, he's old enough to read to. It's the same language."
>
> (Trelease 2001: 28; dialogue shortened for the purposes of the current study)

With this I come to my second example of how the effects of early shared reading are promoted. The first edition of *The Read-Aloud Handbook* appeared as early as 1979; its sixth revised edition was launched this summer. For more than 25 years, Trelease has made it his objective to travel the U.S., visiting schools and meeting teachers and parents in order to give them an understanding of the benefits of reading aloud to children of all ages. The book contains a mixture of advice, research and anecdotes (like the one cited above) and, in addition, a detailed list of more than 1,500 children's books that are good for reading aloud to different age groups. What makes it interesting in the context of the current study is its overall emphasis on an early start of shared reading

sessions[39] and its attitude towards language acquisition: "Grammar is more caught than taught, and the way you catch it is the same way you catch the flu: you're exposed to it. By hearing the language spoken correctly in meaningful sentences, you begin to imitate the pattern […]" (Trelease 2001: 49). With this said, the author goes on pointing out the role of the written language input which he considers to be "far more structured and complicated" than conversational language which is "imprecise, rambling, often ungrammatical, and less organized" (2001: 50). He even goes as far as claiming that the repeated listening to stories read aloud children learn a second language: Standard English (ibid.).

According to a 1990 report, published by the Carnegie Corporation of New York, only half of North-America's infants and toddlers were then routinely read to by their parents (Trelease 2001: 12). It is in the interest of *Reach Out and Read*, *The Read-Aloud Handbook* and similar projects to change this and let all children experience the benefits of early shared book reading to which I will turn in the following section.

3.3 The effects of early shared book reading

Despite the fact that the flickering television screen – independent of children's age – has become an ever more commanding feature in our daily lives, over the last two decades of the twentieth century or so, an increasing interest in the relationship between early shared book reading and children's developing general language and literacy skills could be registered. Experimental studies in various fields of research as well as naturalistic observations and descriptions of parent-child interactions around storybooks during infancy and preschool years brought about the following discoveries: home reading activities are positively correlated with children's language development, with their growth of vocabulary, their eagerness to read and their success in beginning reading and writing in school (e.g., Teale 1981; Cornell et al. 1988). Not surprisingly then, these studies repeatedly stress the importance of early shared book reading: "[…] the age at which parents began reading to their children has been found to be a robust predictor of later language abilities. The younger the age when shared reading began,

[39] E.g., Trelease reviews a study that analysed how much 8-month-old infants really absorb from hearing a story and summarises its results as follows: "This clearly shows that measurable long-term storage of sound and word patterns begins as early as eight months of age. Children hearing the most language will have the best chance of having the best language skills" (2001: 61; original study published in *Science* by Jusczyk and Hohne 1997).

the better were the child's subsequent language and literacy abilities" (Karrass and Braungart-Rieker 2005: 134). According to DeBaryshe (1993), the age of onset of picture book reading and its continuousness are more important than, for example, the exact frequency of reading sessions per week or the number of stories read in one session. Apart from the age of onset, parental reading routines are considered a decisive factor for the extent to which children may benefit from reading sessions. The interaction between reader and listener can be of a more or less distinct type: while some parents do nothing beyond reading out loud the text, others encourage their children to take an active role during story time by, for instance, asking *wh*-questions and providing feedback in the form of modelling, expansion, corrections or praise (Arnold et al. 1994: 236). "In general caregivers who engage in communicative strategies that direct their child's attention to language itself and that promote children's language use during shared reading foster superior language development" (Deckner et al. 2006: 32). Most often, these parents have also been found to vary their reading behaviour in accord with the age and competencies of the child (Sénéchal et al. 1995: 319). Experimental studies following the "dialogic reading" programme developed by Whitehurst et al. (1988) consistently demonstrated significant positive gains in expressive language for those children who experience interactively arranged, dialogic reading sessions (e.g., Hargrave and Sénéchal 2000). How far early shared reading also has an impact on children's receptive language remains yet to be resolved.

Shared parent-infant reading has been shown to affect later language abilities via multiple processes (Karrass and Braungart-Rieker 2005: 134). Firstly, episodes of shared reading provide the infant or preschooler with ideal opportunities for joint attention to occur (see Chapter 2.3). Ideally, reader and child visually focus on the same referents during shared reading sessions; the infant is afforded various opportunities to match words with objects and the reader can help by pointing at the target objects. Secondly, shared reading can enhance language acquisition through the more complex (prefabricated) (text-)language that a parent uses during the reading sessions. Hoff-Ginsberg (1991) shows that the written language register, and due to this often also the spoken register of a parent while reading, is more refined than spoken language used during care-taking activities or free play. Yet joint reading is not only a source for more sophisticated sentence structure; it also exposes children to the language around a wide

variety of objects and environments that they might not experience in their daily lives. While Karrass and Braungart-Rieker (2005: 134) argue in favour of a broader vocabulary input due to this wider range of referents and situations displayed in picture books, the current study's investigation of lexical verbs found the scope of verbal vocabulary to remain relatively unaffected by the variety of topics dealt with in children's first literature (see Chapter 4). Thirdly, as shown by Ninio in her early 1980s studies (1980, 1983), parents often engage in intensive vocabulary teaching during shared reading activities. However, considering the particularities inherent in teaching and learning verb meaning, this last point may, above all, apply to directing object naming.

Naturally, book reading experiences contribute differently to children's (language/general) knowledge at different stages of development: "The first book reading sessions concentrate on vocabulary and syntactic structures […], progressing to knowledge of print conventions and print awareness somewhat later in development" (Laakso et al. 2004: 324).[40] Therefore, the current study considers itself an important contribution not only to the ongoing discussion regarding input language in general (compare Chapter 2), and the language of storybooks (as one source of input language) in particular, but also to the existing discourse on the possible links between early shared reading experiences and developing as well as later language skills. The analysis of the distribution of lexical verbs and their argument structures within a corpus of children's storybooks reveals both structural and distributional aspects of this one specific type of input language. It firstly sheds light on the variation of verbal construction types that occur in the prefabricated text language and, secondly, it assesses the usage of single lexical verbs within and across the individual verb frames (compare Chapters 6-8). Such a twofold analytical step will allow me to make a statement about the verb syntax in storybooks in relation to the two different areas discussed so far: firstly, on the basis of a comparison with the results of existing input studies (e.g., Gropen et al. 1989; Lieven et al. 1997; Theakston et al. 2001) similarities as well as differences between spontaneously produced spoken and prefabricated ("un-

[40] Note that this vague reference to "syntactic structures" above is the only allusion made to syntax/grammar in all of the reviewed literature on early shared book reading. Clearly, the predominating point of interest throughout the existing studies is the influence early shared reading might have on children's vocabulary growth, on the one hand, and on their later reading and writing performance, on the other hand.

spontaneous") language input taken out of storybooks will be presented and discussed in the context of language acquisition. In doing so, the current discourse on the role of input in first language acquisition as well as on the relevance of structural aspects of input language – e.g., a small number of repeatedly used syntactic patterns *vs.* a wide range of different syntactic patterns – will be broadened by a prominent variant of input language. Secondly, the results of the current study will add a first syntactic dimension to existing surveys on the relationship between early shared book reading and infants' and/or preschoolers' developing language skills. So far, these centre exclusively around such things as children's vocabulary skills (e.g., Sénéchal et al. 1995b), their own developing reading skills (e.g., Frijters et al. 2000) and interest in books, their access to the literary world (e.g., Cornell et al. 1988) and the effects of adults' diverse reading behaviours on children's language development (Arnold et al. 1994), leaving the possible contribution of early shared book reading to the development of syntactic features in child language widely disregarded.[41]

To terminate the current chapter, I will briefly outline the findings of one particularly interesting study and its relevance for the current work. Snow and Goldfield (1983), after studying one parent-child dyad during picture book reading over a period of eleven months, report "that the repetition of certain verbal behaviours during book reading stimulates imitation and rote learning by the child, and ultimately independent use of the recurrent linguistic forms" (Sénéchal et al. 1995). Due to their observations, Snow and Goldfield (1983: 552) argue that "one acquisition strategy which could account for the usefulness of routines is the following: say in any particular situation what others have said in previous occurrences of that situation"[42] and, furthermore, that

> such a strategy suggests that [children] are learning language incrementally, picking up adult utterances one at a time and using them in a highly situation-specific way, at least initially. […] Somewhat older children may generalize a learned form beyond the situation which is specific to its acquisition fairly quickly (Snow and Goldfield 1983: 552-553).

[41] In a recent corpus-based study, Thompson and Sealey (2007) analyse the language used in imaginative fiction written for a child audience aged 8;0-10;0. The authors are interested in similarities and differences regarding overall frequencies of words, parts of speech and word and parts of speech sequences in children's and adult fiction. Yet the motivation behind this study is primarily the question about the pros and cons of extended corpus-based teaching and as such is very different from the current study's.

[42] Compare also Chapter 2.3 of the current survey on the role of imitation in early child language production and of using more or less whole phrases.

These findings based on the picture book reading context are in line with the argumentation developed by Clark and Kelly (2006), Goldberg (2006) or Tomasello (2003) working in the cognitive-functional/usage-based framework and strongly support the current study's objective of identifying and exposing structural and distributional aspects found in children's first literature.

3.4 Summary

In the present chapter, I provided an outline of the significance of familiarising children early in life with books, especially in a time where electronic media seem to have taken over. By means of a number of studies I manifested the positive effects early shared storybook reading has on children's language development. The purpose of the current study was shown to be twofold: on the one hand, it expects to broaden the horizon of usage-based approaches in first language acquisition by complementing existing spoken input studies with the analysis of the particular source of input language which it is based upon: the written language found in storybooks. On the other hand, its results will add another facet to the research into the effects of early shared reading sessions in that it provides insights into the verb syntax of the "story language" the child could benefit from while being read to.

In the following chapter, I will introduce some methodological steps that are relevant in the framework of the current study and present the corpus-linguistic tool that was used to search and sort the corpus data for the analyses to follow in Chapters 6 to 8.

4. Data and research methodology

4.1 Introduction

The two previous chapters introduced the theoretical background of this study. I started with drawing special attention to the constructivist framework in language acquisition theory as well as to the significance of analysing spoken language input (Chapter 2) and proceeded by discussing the effects of early joint picture book reading that have been found and accounted for in the literature so far (Chapter 3).

In the current chapter, I will provide a description of the corpus upon which the current investigation is based, giving first of all a definition of the term "storybook" and next establishing both the selection criteria for the texts and the annotation scheme that I devised and applied to the otherwise "raw" orthographic text corpus. In 4.3, the methodology employed in the essentially quantitative analysis of the various verb constructions found in the database is presented. At the end of the chapter, I will offer a comprehensive overview of the distribution firstly of verb forms across verb classes and, secondly, of lexical verbs across complementation types.

4.2 The children's storybook corpus (CSB)

So far, I have used the terms "picture book" and "storybook" interchangeably and without any specifications when talking about the significance of early shared reading experiences. However, before turning my attention to the selection criteria for the corpus, a clear definition of the corpus components is necessary. Thus, I will first illustrate how and why the term "storybook" rather than "picture book" is used in this survey and will then go on to describe the children's storybook corpus and introduce the annotation system devised for the framework of the current study.

4.2.1 Text selection criteria

Consider first the following description of a picture book: "A picture book is text, illustration, total design; an item of manufacture and a commercial product; a social, cultural, historic document; and foremost, an experience for a child" (Bader 1976: 5). These words do not only cover many different features connected with the books in question, they also foretell a certain complexity which any definition of these books will

have to try and grasp. To begin with, no universal term for this kind of children's literature exists in the English-speaking world. While "picture books" is the term used most frequently, the books are also referred to as "illustrated books", "storybooks" or even "picture storybooks". Furthermore, various sub-classifications are found: "toddler books", "early picture books", "toy books", "concept books", "wordless books", to name but a few.[43] Mostly, these terms are used interchangeably. Although picture book turns out to be the most commonly used term especially in Great Britain (p.c. with a former primary school teacher), I have nevertheless adopted the rather less frequent term "storybook" for the current study. Precisely because there is such a muddle of names, it seems best to go for the least encumbered term. The word storybook also articulates more explicitly the fact that this is a linguistic study interested solely in the textual elements of the books.

One way of establishing a definition of storybooks is to focus primarily on their form and design, that is, to view the books in question rather as a "format" than as a genre, since it is the physical aspects of storybooks that make them distinct within the field of children's literature (Matulka 1999-2005). These physical aspects include a relatively standardised page number of about 32 pages (this may vary slightly depending on the publisher), a size and format appropriate for the shared reading situation (sometimes the "board book format" is chosen, although this format is mostly reserved for baby and toddler books which contain shorter, very simple stories) and the fusion of words and pictures that assures a rich and rewarding reading experience. This interplay of narrative and illustration is not only seen as fundamental for the storybook as a whole, it also marks the one point of agreement among the experts in the field. Publishers' guidelines regarding word numbers are somewhat less uniform: *Random House*, for example, suggests "anything from a line a page to 1,500 words maximum" and suggests an average of 600-1,000 words per book.[44] Others view 500 ("Picturing Books") or 1,000 words ("Write4Kids.com") as an appropriate average length, yet it is always also pointed out that storybooks occasionally may have more than 2,000 words. Understood as a format, storybooks cover a wide range of genres, e.g. anthropomorphic

[43] These terms are taken from the websites "Picturing Books" and "Understanding Children's Book Genres".

[44] This information is taken from the brochure "Random House Children's Books – guidelines for first authors" which was sent to me by Lucy Walker, an editor working in the Children's Books department at Random House, New York, in April 2004.

(animal) vs. realistic stories, stories of magic realism (a fusion of reality and imagination) or informational (non-fiction) stories. The suggestions regarding recommended reading age vary from 4-8 years (Write4Kids.com), 0-2; 3-4; 5-8 years (amazon.co.uk) or 0-5 and 3-7 years (*Random House*). Thus, even within one publishing house there seems to be no agreement on age groups. Among publishing houses they neither span the same number of years, nor do publishers always assign the same stories to the same or even similar age groups.

The disagreement regarding word number and age range together with the lack of a clear definition of picture/storybook prompted me to independently define a set of criteria for the selection of the texts, which would become part of the corpus. These include the following aspects: firstly, a strong interplay between text and pictures as the one striking feature of a storybook must prevail. As a further restriction I included stories only if they contain a coherent text body which is composed of fully grammatical sentences. Thus, no books of the "one word/one picture"-type were taken into the corpus. Furthermore, there has to be a certain variation in sentence structure, that is, texts made up of one or two repeatedly used sentence structures (e.g., a *wh*-question always answered with an existential *there*-construction) remained excluded. I allowed word numbers up to 2,000 words[45] and left page numbers disregarded due to the fact that a number of my texts were taken from storybook collections which are formatted rather differently from the common 32-page-storybook. While the variation in topics posed no selection criterion, the different genres of storybooks were discriminated insofar as two of them were not accepted: firstly, no "concept books", e.g., introductions to shapes, colours, the alphabet or counting, were incorporated in the corpus because they mostly lack the necessary variation in syntactic structure. Secondly, the so-called "easy readers" remained excluded. Easy readers are transition books designed for first readers in English. Characteristically, they contain comparatively easy and careful vocabulary choices (e.g., repetitive language to support the recognition factor of common sound-spelling relationships in words, monosyllable and/or very

[45] Note that two of the stories chosen for the corpus exceed 2,000 words. While the average number of words per sentence in these two storybooks exceeds the average mean sentence length of a random selection of ten of the other texts, a comparison based on sentence and verb phrase complexity, verb complementation patterns and vocabulary showed no significant differences. Most noticeable, the two texts in question contain many more coordinated clauses, while subordinated sentence structures still remain the exception.

frequent words, recurring sounds to teach phonemic awareness etc.), larger typefaces, short sentences, sight words[46] and large illustrations. Because their design is especially aimed at facilitating the process of learning to read, they are unqualified for the current study which is, primarily, interested in the analysis of "undesigned", unadapted language.

In how far children's storybooks can be said to contain unsophisticated language of the type that comes to mind spontaneously is, of course, difficult to say. However, in order to still demonstrate this aspect at least rudimentarily, it may be best to let the authors speak for themselves at this point. The statements displayed in (1) – (3) go back to storybook writers whom I questioned about their possible thoughts regarding language style and language complexity while writing up a story for very young children.[47]

(1) A writer's choices are never really so deliberate. It is much more an organic whole. Since I know how to use language (and abuse it, too) I do not have to think about grammar as I write. What I may think about as I go over and over a piece are some of the following questions: 1. Is this passage too slow? 2. Would the character really say that? 3. Have I used that specific word too often? 4. Is this graceless? Is there a more graceful way of saying that? 5. Is this too talky? 6. Are the characters situated in a real place or are they floating in a kind of authorial air? (Jane Yolen, North-American writer, March 2004)

(2) […] What happens? Do the characters have enough to say? Or are they waiting around for the narrator to get through a page or two? As a rule of thumb, most narrator speeches should consist of only one or two kid-sized paragraphs. […] While you're there, check your action. […] Did you describe something physically impossible? Did you leave out something vital? Is it too busy? Not busy enough? Is the number of characters about right, or is the stage too crowded? […] (Aaron Shepard, North-American writer, January 2006)

(3) I develop my stories by storytelling, so the audience is always part of the process. In a published story, I often use bold print or print size to get the reader to read in a particular way. I always think about how the story will be read. I do not think about 'language level' or stuff like that. If a story works for storytelling in all sorts of different places, then it is a good story. WORKS WITH AN AUDIENCE: audience = age 2-12 for me; works = the audience will spontaneously join in a story that they have never heard before (Bob Munch, Canadian writer, April 2004)

[46] "Sight words" are "service words" (pronouns, adjectives, adverbs, prepositions, conjunctions and verbs) which cannot be learned through the use of pictures. Throughout U.S. schools standardised lists of sight words, the so-called Dolch Word Lists, are used. The Dolch Basic Sight Vocabulary of 220 words makes up 50-75% of all words used in school books, library books, newspapers and magazines (http://www.msrossbec.com/sightwords.shtml - 17.02.2006).

[47] In order to attain this information, I approached a number of authors either via email or via letters early in 2004.

This may give an impression as to how "linguistically unprepossessed" these writers go about their work and that to them the content, the textual netting and narrative aspects are of much more importance than sentence structure. The same can be said about publishers' guidelines on the one hand, and some available "manuals" on how to write a children's book on the other hand. In its guidelines, *Random House* simply states that

> [t]he aim of a picture book is to capture a complete idea in the most succinct way possible. Every word must count and there is no room for padding or whimsy. In other words do not clutter your story with too much incidental detail or dialogue. Do not wander off on tangents.

What follows is a list of "themes to avoid" but there are no recommendations regarding language style or syntax. Underdown and Rominger (2001), in their *The Complete Idiot's Guide on Publishing Children's Books*, include chapters on book formats and age levels, on book genres and on certain elements which he says all books have in common. However, there is no chapter that is dedicated to recommendations on language style or the level of grammatical complexity to be used or avoided, for instance, in connection with the different age groups. Again, other things seem to be more important. This is true for a number of these "advisors", e.g., *The Way to Write for Children* (Aiken 1999) and *How to Write a Children's Book and Get It Published* (Seuling 2004).

4.2.2 Corpus description

Following Crystal (2001: 95; emphases in the original), a corpus is defined as "[a] collection of LINGUISTIC DATA, either written texts or a transcription of recorded speech, which can be used as a starting-point of linguistic description or as a means of verifying hypotheses about a LANGUAGE". Accordingly, the current corpus-linguistic study seeks to give a description of verbs and verb complementation patterns in children's storybooks. The corpus which provides the empirical foundation upon which this investigation is based was compiled specifically for this study, that is, none of the texts were taken from existing corpora or the Internet. It is a monolingual corpus representing native speakers' written varieties of English.[48] The 73 different texts which were chosen for the children's storybook corpus (henceforth referred to as the CSB corpus) are composed by 54 different authors. So, whereas the majority of writers is represented by

[48] For a complete list of the works included in the CSB corpus see Appendix I.

only one text, there are eight authors of whom between two to six texts were included. More than half the texts are taken from British writers (73%; 53 texts), while texts produced by North-American authors make up the second largest group (21%; 15 texts). One text was published in Ireland. The remaining four texts are translations from German (two texts) and French (one text) published in Great Britain or of unclear origin (one text), respectively. The CSB corpus is a synchronic corpus in that it contains texts primarily published in the 1980s (30%; 22 texts) and 1990s (53%; 39 texts). The other 13% subdivide into six texts which, though produced earlier (1933; 1956; 1963; 1970s (3)), are still among the presently read storybooks. Because these celebrated ("ageless") reprints revealed no notable difference in language style (e.g., vocabulary choice, sentence length and complexity etc.), there was no reason to exclude them from the corpus. Another six texts were published more recently (2000; 2003 (3); 2004; 2005). For the purpose of this study, all 73 texts were computerised whereby texts and illustrations were separated.[49] Texts were stored as "text.only"-documents without headings or section breaks; punctuation alone was maintained. The size of the corpus amounts to 43,215 words, with an average length of approximately 600 words per text. Text length ranges from 41 (shortest) to 2872 words (longest), with the following distribution of words across all texts:

Table 4.1: Word numbers distributed across the 73 texts in the CSB corpus

Number of words:	< 100	100-200	200-300	300-400	400-500	500-600
Number of texts:	6	6	8	7	9	7

Number of words:	600-700	700-800	800-900	900-1000	1000-2000	> 2000
Number of texts:	9	3	5	5	6	2

The main interest of the present study lies in the investigation of lexical verbs and their complementation patterns. Although the much specialised group of texts underlying this analysis is characterised by a broad variation in topics, the texts are syntactically similarly structured (e.g. with regard to clause complexity, verb phrase complexity and mean number of words per sentence). The verb paradigm in particular appears restricted

[49] Although *per definitionem* the illustrations form an integral part of each storybook, as a linguist, I am only interested in the textual features.

to the usage of very frequent and "light" verb types such as *go* (233 tokens), *have* (175), *get* (134) *make* (94), *do* (75) or *put* (69).[50] A first survey of all the lexical verbs in the corpus reveals that the 5,479 tokens accounted for in the corpus trace back to only 886 different verb types. A wider range of thematically idiosyncratic texts and/or genres would only marginally add to the type variation since the above-mentioned verb types are employed independently of the topics and genres. A change in corpus size would therefore not lead to any significant increase in verb types or complementation patterns.[51] Thus, the collected data may be regarded as a relatively representative sample of the verb types and verb complementation patterns used in storybooks. As no significant variation in language style[52] was found either among authors or due to their language/cultural background, the fact that of certain authors more than one writing was included or that it is mostly a cross-section of British writers does not seem to detract from regarding the corpus as a reasonably balanced representation of the language style/syntax used in children's storybooks.

4.2.3 Annotating the CSB corpus

So as to be able to retrieve the relevant information about the use and distribution of verb types and verb complementation patterns from the CSB corpus with the help of Concord, a concordancer programme (see 4.3 below), an appropriate set of annotations had to be defined and adjoined to the plain text data. Thus, in a first step, a comprehensive tagging system for the verb paradigm was developed and, in a second step, the corpus was annotated manually. Above all, the tagging system serves to assign all the verb forms in the corpus to either one of the three major English verb classes (full verbs, primary verbs and modal auxiliary verbs; Quirk et al. 1985: 96; see also Chapter 5 for details) or to one of their subclasses (e.g., verbs of intermediate function such as marginal modals or modal idioms which can be arranged along an auxiliary

[50] Huddleston and Pullum (2002: 291) write: "The light use of the above verbs contrasts with their ordinary use, where they have their full semantic content." When used as "light verbs" these verbs contribute relatively little to the meaning of the predication in comparison with their complements: "The main semantic content is located not in the light verb, but in the noun functioning as head of the direct object" (2002: 290).

[51] It must be noted that this statement is exclusively based on personal observation and should therefore be taken with the necessary pinch of salt.

[52] Language style here refers to such things as mean sentence length, vocabulary choice and the complexity of both clauses as such and verb phrases in particular.

verb / main verb scale; Quirk et al. 1985: 136f). Table 4.2 lists the annotations which were developed following the classification of verbs in Quirk et al. (1985: Chapter 3):

Table 4.2: The verb class tagging code

Verb class	Tagging code
full lexical verb	e.g.: *making* [MAKE-FV]
full lexical verb – phrasal	e.g.: *woke up* [WAKE UP-FVph]
full lexical verb – prepositional	e.g.: *looks at* [LOOK AT-FVpr]
full lexical verb – phrasal-prepositional	e.g.: *gazes up at* [GAZE UP AT-FVphpr]
copular verb	e.g.: *was* [BE-VCOP] *a strong* […]
auxiliary verb	e.g.: *was* [BE-VAUX] *singing* […]
catenative verb	e.g.: *went on* [GO ON-VCAT]
modal auxiliary verb	e.g.: *can* [VMOD]
semi-auxiliary verb	e.g.: *had to* [HAVE TO-VSAUX]
marginal modal	e.g.: {*used to*}VMMOD
modal idiom	e.g.: {*'d better*}VMODID

Since this system covers the three main verb classes solely in their functions as either only main verbs (full lexical verbs), only auxiliary verbs (modal auxiliaries) or as main or auxiliary verbs (the primary verbs *be*, *have* and *do*), thus not covering some more peripheral sub-functions of these verbs, the classification had to be extended. Thus, three additional categories were introduced, namely [EX] for existential *there*-constructions as in example (4), [ELP] for elliptic constructions (5) and [TAG] for tag-questions (6)

(4) […] what noises **there are** [EX] in the garden at night. (CB 18)

(5) Together they ran as fast as they **could** [ELP] to the end of the playground. (CB 53)

(6) We don't have to be afraid of anything, **do** [TAG] **we**, Bear? (CB 29)

The reason for introducing yet another, slightly different annotation category, namely one that denotes all lexical verbs which introduce direct speech ([DS]), at this stage lies, on the one hand, in the characteristics of the text type upon which the corpus is based and, on the other hand, in the objective of the current study. Since it seeks to analyse verb usage and complementation patterns of lexical verbs, the numerous verbs introducing direct speech which are an inherent feature of the chosen text type are special cases in that "[t]he structural relationship between the reporting clause and the

direct speech poses some analytical problems" (Quirk et al. 1985: 1022) when it comes to determining verb transitivity. Example (7) illustrates the dilemma: depending on the status assigned to the direct speech clause *I saw that*, it may be viewed as either a main or subordinate clause and, if interpreted as the latter, may be regarded as the direct object complementing the main verb *whispered* of the reporting clause:

(7) "I saw that," **whispered** [DS] Arthur. (CB 02)

However, taking *I saw that* as a direct object seems to be a rather questionable interpretation. Among other things, the usual punctuation separation of the reporting clause, though not necessarily reflected in the intonation of the reader, argues against such a simple classification (see Quirk et al. 1985: 1022-1024 for a detailed discussion). While Quirk et al. go on suggesting that "[i]t is best to recognize that there is a gradient from direct speech that is clearly independent to direct speech that is clearly integrated into the clause structure" (1985: 1023), I resolved to assign all the verbs used with direct speech (948 instances) to an extra category [DS], thus acknowledging their special status in this study.

In a second step, again roughly following the presentation in Quirk et al. (1985: 1170ff), a key for possible complementation patterns of lexical verbs, which clearly are at the centre of the current study since they determine the structure of a clause, was developed and added to the annotation of all those verbs previously marked as [FV], [FVph], [FVpr] or [FVphpr]. The following set of tags evolved:

Table 4.3: The complementation pattern tagging code

Degree of transitivity	Tagging code	Complementation type	Tagging code
intransitive	[FV-ITR]	noun phrase	NP
monotransitive	[FV-MTR]	prepositional phrase	PP
complex-transitive	[FV-CTR]	clause	CL
ditransitive	[FV-DTR]	obligatory adjunct (adverbial)	A
		adjective	ADJ

This lexical verb tagging system allows for the following eleven different complementation patterns:

a) [FV-ITR]

b1) [FV-MTR(NP)]

b2) [FV-MTR(CL)]
c1) [FV-CTR(+ADJ)] [53]
c2) [FV-CTR(+NP)]
c3) [FV-CTR(+A)]
c4) [FV-CTR(+CL)]
d1) [FV-DTR(NP;NP)]
d2) [FV-DTR(NP;CL)]
d3) [FV-DTR(NP;PP)]
d4) [FV-DTR(PP;CL)]

These complementation patterns as well as the modifications that were made of the Quirk et al. system will be discussed in detail in Chapter 5, which introduces and elaborates on the grammatical framework that the current study is based upon.

As before, I devised an additional annotation category so as to also be able to separately take account of passivised verb forms. These I have either marked as [FV-BE-PAS] or [FV-GET-PAS], thus differentiating between *be*- and *get*-passives. With the tagging of all the lexical verbs in the corpus accordingly, the second and final step of the CSB corpus annotation was completed.

The tool which was used throughout this study for searching the database is Concord, the concordancer of Oxford WordSmith 4.0. In the following subsection of this chapter I will briefly present its main features.

4.3 The tool: Oxford WordSmith 4.0

4.3.1 A tool for corpus linguistics

Oxford WordSmith 4.0 is a suite of programmes developed and administered by Michael Scott at Oxford University Press, Oxford.[54] It comprises three main tools designed for looking at the behaviour of words in (con-)texts: the Wordlist tool which generates word-lists or word-clusters either in alphabetical or frequency order, Concord, a concordancer tool, and KeyWords, a tool for seeking keywords in texts. The current study made almost exclusively use of the concordancer tool. A concordancer allows for systematic word searches which are aimed at finding a word or phrase in context in

[53] The "+" symbols here indicate what kind of syntactic element follows the direct object noun phrase in each case of the complex-transitive complementation pattern. A distinction is made between noun phrase, clause or adjective phrase functioning as object complements (c1-c3) and an obligatory adverbial (c4).
[54] For further details seeMichael Scott's website: www.lexically.net/wordsmith/.

order to be able to make statements about its contextual behaviour and about the characteristics of both the word itself and the "company" it keeps. Once Concord has been run through a database seeking a specified search word, it will present a concordance display as well as information about, for example, collocates of the search word, dispersion plots which show where the search word came in each file, cluster analyses showing repeated clusters of the search word or plots for the five most frequent words each to the left and to the right of the search word.

4.3.2 Searching the data

Since the current study focuses primarily on the use and distribution of lexical verbs and their complementation patterns, Concord was used solely for the retrieval of the previously marked-up verbal forms from the CSB corpus. In order to run a search on the text files either a lexeme with its entire possible word forms as in (8) or a particular tag combination as in (9) were specified as search words:

(8) make[MAKE*]/makes[MAKE*]/making[MAKE*]/made[MAKE*]

(9) *FV-DTR(NP;CL)

The asterisk in these search strings prompts Concord to disregard whatever may follow in the brackets after MAKE (8) or come before FV (9) so that every possible tag combination will be retrieved. For example, running this search string through the first ten text files of the CSB corpus yields in the following concordance display:

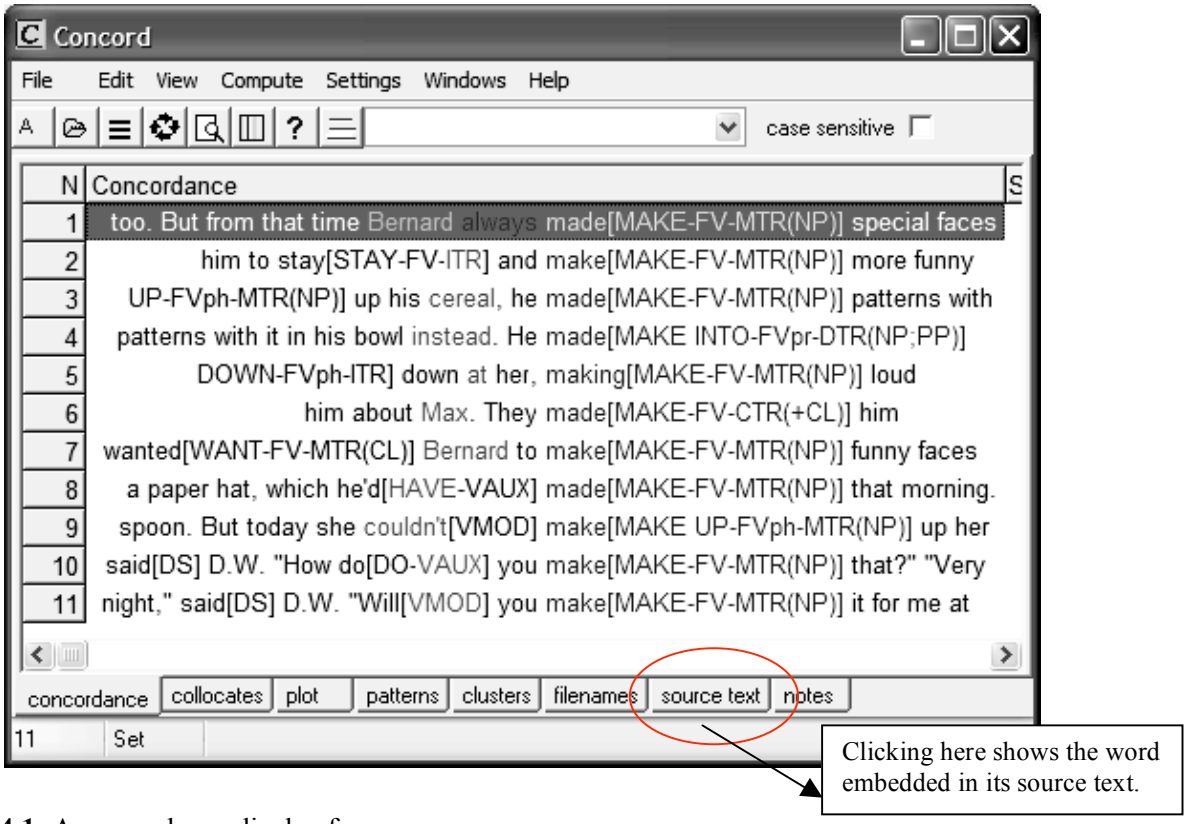

Figure 4.1: A concordance display for make[MAKE*]/makes[MAKE*]/making[MAKE*]/made[MAKE*] for the first ten text files

As this screenshot shows, eleven instances of the given search string were found. These include various complementation patterns for *make* as well as one instance of the phrasal verb *make up* and one of the prepositional verb *make into* since no further specifications, e.g., only seek all instances of plain lexical verbs (indicated by ==FV==), were applied. The search word is, in each case, shown in its immediate context. A double click on the selected concordance line changes the display window to "source text" and presents the word – highlighted in blue – as part of the text to which it belongs. In the example above, no search horizons were specified, thus the variation in word numbers displayed to the left and right of the search word.

The following screen shot presents the results of the search for the tag string in (9), also for the first ten text files of the CSB corpus:

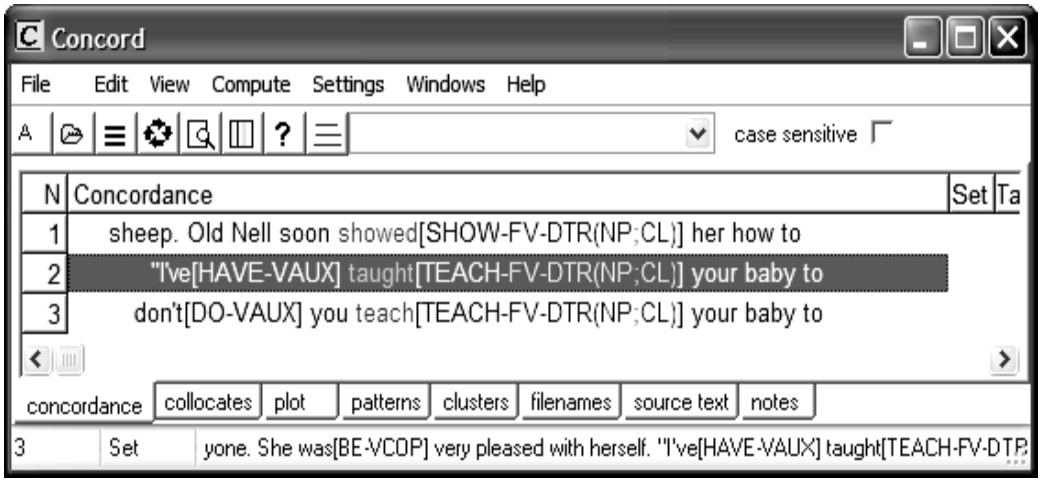

Figure 4.2: A concordance display for *FV-DTR(NP;CL) for the first ten text files

As can be seen, only three instances of verbs used in the complementation pattern FV-DTR(NP;CL) were retrieved from these files. Like above, the identified search words are highlighted and placed at the centre; they are displayed in their immediate contexts, this time with the collocate horizons set at five to the left and three to the right.

Thus, with the aid of Concord all the instances of either a particular lexeme or of more or less specified complementation patterns[55] can be recalled from the database and are displayed in concordance lines. Besides the immediate context of a search word, other details for each entry are traceable: e.g., the entry number, the concordance line, word-position (e.g. 1st word in the text is 1), source text and source text filename.[56] In a first step, all verbal forms were retrieved from the corpus according to the above-introduced (sub-)categories, thus assembling a comprehensive overview for the current collection of texts of both the distribution of the various verb classes and subclasses and of the complementation patterns used with all lexical verbs (compare Table 4.4 below).

Yet, the bulk of this study is concerned solely with the use and distribution of lexical verbs within and across the various syntactic verb frames in the corpus. Additionally, only the modal auxiliary verb paradigm is taken into account. Thus, firstly, no in-depth discussion of copular constructions will be undertaken within the scope of the current study, although usage-based research into the interplay between

[55] A search could, for instance, either be undertaken for all verbs used monotransitively (*FV-MTR*) or, more specifically, for all verbs used monotransitively with a noun phrase as direct object (*FV-MTR(NP)).

[56] Note that all the specifics on Concord or Oxford WordSmith 4.0 in general are taken from WordSmith Tools Help for which Mike Scott at Oxford University Press holds the copyright.

input language and child language has recently also begun in this area (Theakston et al. 2005; Theakston and Lieven 2005). But copular verb constructions do not display the same variation in type as lexical verbs so that the restriction to the latter allows for a more unified approach to one verb category and its characteristics. Secondly, other more peripheral groups of verbs (marginal modals, modal idioms, semi-auxiliaries and catenatives) which, like the central modal verbs, can also be seen as extensions of the basic verb constructions remain largely excluded here. Their relatively infrequent occurrence within the collected data would not allow for any representative analyses. Eventually, within language acquisition studies, a number of other features have attracted attention; among them are tense and aspect (e.g., Maslen et al. 2004; Matthews and Theakston 2006), question formation (e.g., Dąbrowska 2000; Rowland et al. 2003), negation and inversion (Ambridge et al. 2006; Choi 1988; Rowland and Pine 2000). Although all of these play a more or less strong role in the acquisition of the English verb paradigm, they remained disregarded in the current context since so far no obvious connection between the acquisition of any one of these factors and verb complementation patterns has been discussed.

Moreover, what has to be pointed out is the fact that, within the current study, the success rate of the actual data retrieval process, on the one hand, and of the following interpretation of the attained insights in distributional patterns, on the other hand, first and foremost depends on the precise and correct annotation of the compiled database. Since both the compilation and the annotation were done manually, a certain error rate must undoubtedly be allowed for. The multiple reviewing[57] of the already annotated text files has erased a number of incorrect or inconsistent markings, yet possibly not without still missing out on one or the other. Furthermore, the notion of gradience must be taken into account here. Aarts (2004: 344) defines gradience in linguistics/grammar "as the phenomenon of blurred boundaries between two categories of form classes α and β, such that certain elements can be said clearly to belong to α, others indisputably to β, with a third group of elements belonging to the middle ground between the two categories". In the process of annotating the current corpus, I came across several instances where classification either within or across categories was ambiguous. The fact that these, for clarity, were nevertheless assigned to seemingly

[57] Each of the texts has been analysed five times.

clear-cut categories must neither belie their status of "in-betweens", nor the fact that another researcher might correctly have treated them differently. While a more detailed discussion of this aspect follows in Chapter 5, a first broad overview of the different verbs and verb complementation types within the children's storybook texts is given below.

4.4 Verb classes in storybooks: An overview

According to the verb classification system introduced in the previous section, the following distribution of verb forms across classes and subclasses emerges:

Table 4.4: Distribution of verb classes and subclasses in the CSB corpus

Verb class/subclass or verb function	Number of tokens
FV (including FVph, FVpr, FVphpr)	5,479
VCOP (*be*, *feel*, *look*, *stay*, *become*…)	1,459
VAUX (*be*, *have*, *do*, *let's*, *get*)	899
VCAT (*go*, *keep*, *seem to*, *manage to*, *seem*…)	37
VMOD (*could*, *would*, *can*, *will*, *can't*…)	633
VSAUX (*have to*…)	100
VMMOD (*used to*…)	12
VMODID (*'d better*…)	10
DS (*say*, *ask*, *cry*, *shout*, *call*…)	948
EX	101
ELP/SUB[58]	91
TAG	15
GET	134

The following points regarding Table 4.4 can be made: firstly, the main object of investigation of this corpus analysis, namely the full lexical verbs, make up the biggest share (5,479 tokens) of all the verb forms (9,973) accounted for in the CSB corpus. Next in frequency are main verbs functioning as copulas, *i.e.*, the subject-verb construction is followed either by a subject complement or by an adverbial. By far most frequently, a form of *be* is found in the verb slot of this complementation type (sentence types SVC and SVA; 1,267 occurrences).[59] Other verbs are *feel* (44), *look* (43), *stay* (25), *become* (16), *grow* (12), *keep* (11), *go* (10), *change into* (9), *seem* (4), *taste* (4), *sound* (3), *turn into* (3), *turn* (2), *grow into* (2), *stand* (1), *behave* (1), *remain* (1), and *smell*

[58] While ELP refers to instances of the three primary verbs or of the central modals characterised by an ellipsis of the predication, SUB includes only instances of *do* as a main verb in its substitute role. Despite their different syntactic backgrounds these two functional groups of verbs are combined in Table 4.4.

[59] Quirk et al. (1985: 1171ff) include the copular constructions in their overview of English verb complementation patterns (1985: 1171, Table 16.20). However, in the current study, only the Quirkian complementation types B, C and D were adopted.

(1). Forms of the three primary verbs *be*, *have* and *do* functioning as auxiliaries together with a few tokens of *get* (17) and of *let's* (19) rank third in the classification of verb classes in the CSB corpus. Again, forms of *be* functioning either as an aspect auxiliary or as a passive auxiliary are most frequent in number (324 instances). These are followed by forms of *have* (294) as an auxiliary for perfective aspect and of *do* (243) as "dummy" operator (Quirk et al. 1985: 130ff), respectively. The common abbreviated form *let's*, a colloquial alternative to *let us*, is different from the ordinary 2nd-person-imperative of *let* as a transitive verb in that in this type of imperative *let* is no more than an introductory particle (1985: 830). It is therefore placed within the group of auxiliary verbs and might be interpreted as adding a certain modal meaning (e.g., a request or weak order) to the verb phrase.[60] The reasons for including *get* as another passive auxiliary besides *be* within the scope of this study will be stated in detail in Chapter 8.2. Relatively few instances (37) are realised in catenative verb constructions, that is, in constructions that "are in no way syntactically related to transitive verb constructions" but "have meanings related to aspect or modality" (Quirk et al. 1985: 146).

The group of the nine central modal verbs *can*, *could*, *may*, *might*, *shall*, *should*, *will*, *would* and *must* together accounts for 633 instances, that of semi-auxiliaries for 100 and that of existential *there*-constructions 101, while only twelve and ten instances of marginal modals and modal idioms, respectively, were found. This comparatively infrequent occurrence of marginal modals and modal idioms as well as of semi-auxiliaries and existential *there*-constructions is, among other things, responsible for the exclusion of these groups of verbs from a more profound analysis. Yet the other additionally introduced category, [DS], contains a larger number of tokens again: as Table 4.4 shows, there are 948 instances of verbs introducing direct speech in the CSB corpus with word forms of the lexeme *say* (664 tokens) outnumbering all other lexemes by far.

A final comment regards the verb *get*: a separate row in Table 4.4 is dedicated to *get* because on the basis of the verb *get* the notion of multiple class membership of verbs will be exemplified in Chapter 7. Therefore, all the occurrences of *get* apart form

[60] This special type of *let*-imperatives has diverged from the ordinary verb *let* meaning 'to allow'. Especially within dialects which allow for examples like *Let's you and me make it ourselves* it must be regarded as one unit. The *'s* here is no longer replaceable by *us*; in a process of grammaticalization *let* and *'s* have fused syntactically as well as phonologically and are no longer analysable as verb + object (see Huddleston and Pullum 2002: 924-925; 934ff).

those functioning as a passive auxiliary and those where *get* is used as the phrasal verb *get up* remained unanalysed when first annotating the corpus or, more precisely, were simply marked as [GET]. A detailed investigation of the functions of *get* in these cases will follow in Chapter 8.2.

The analysis of all the full lexical verbs based on their various complementation patterns is displayed in Table 4.5:

Table 4.5: Distribution of lexical verbs across complementation patterns (total numbers)[61]

ITR	MTR (NP)	MTR (CL)	CTR (+NP)	CTR (+CL)	CTR (+A)	CTR (+ADJ)	DTR (NP; NP)	DTR (NP; CL)	DTR (NP; PP)	DTR (PP; CL)
2,235	1,924	485	13	134	302	40	79	44	33	4

As can be seen, the vast majority of lexical verbs is used either intransitively (2,235 instances) or in the monotransitive pattern complemented with either a noun phrase (1,924) or a clause (485) functioning as the direct object. With altogether nearly 500 occurrences, the variants of the complex-transitive complementation pattern make up the second largest group. It is characteristic of this complementation type that the direct object is followed by another element functioning either as an object complement (NP, CL or ADJ) or as an obligatory adverbial. The latter variant (302 instances) clearly dominates this group. Ditransitively-used verbs account for only 160 occurrences in the database. The basic form of ditransitive complementation which involves two object noun phrases appears most frequently (79 instances) within the CSB corpus. A more detailed discussion of the findings displayed in Table 4.5 follows in Chapter 6.

4.5 Summary

In this chapter, I have given a detailed description of the data used in this work for the analysis of the distribution of lexical verbs and their complementation patterns, passive and modal constructions in children's storybooks. This was preceded by a discussion and definition of the term storybook. The bulk of this chapter was then dedicated to the introduction of WordSmith 4.0, a concordancer tool, and to those methodologies that are relevant for the corpus-based analysis.

[61] A detailed overview of the individual lexical verbs and their frequencies of occurrence within each complementation pattern is given in Appendix II.

In the next chapter, I will turn to the presentation of the grammatical framework that I decided to implement in my investigation. The reasons to prefer the types of verb complementation patterns described in Quirk et al. (1985) to the more recent modelling of the area under discussion in Huddleston and Pullum (2002) will be depicted in detail Chapter 5. Since the Quirkian scheme and the authors' *modi operandi* in certain respects, over the years, did not remain without criticism, it will also be necessary to review a number of notable commentaries made by other authors in this context.

5. A categorisation of English verb complementation patterns

5.1 Introduction

Compare the following examples:

(1) The moment they **arrived**, Little Rabbit made straight for the swings. (CB 51)

(2) He tossed the Tub Child in his toolbox, shut it with a click and **left**. (CB 26)

(3) […] but the Blanket Fairy would **leave** an absolutely wonderful, positively perfect, especially terrific big-boy gift in its place. (CB 28)

(4) They all wanted to **help** and, within minutes, everyone was searching. (CB 33)

(5) "Please, can you **help** me?" (CB 21)

(6) Then Mum **helped** Alfie to put on his mac and his boots and his rainhat […] (CB 24)

(7) […] and Cat **helped** him look for the others. (CB 33)

In (1), the lexical verb *arrive* does not take an object, it belongs to the group of "pure" intransitive verbs in English (Quirk et al. 1985: 1169). Examples (2) and (3) show the possibility of using the lexical verb *leave* either intransitively (2) or monotransitively (3), the direct object being realised by the noun phrase *an absolutely wonderful, positively perfect, especially terrific big-boy gift*. A similar, albeit even more multifaceted use of the verb *help* is shown in (4) to (7), where *help* is first used intransitively, next monotransitively complemented by a direct object (*me*) and then complex-transitively (with direct object plus *to*-infinitive clause and with direct object plus bare infinitive, respectively). The present chapter will discuss this versatility among English lexical verbs, the various different complementation patterns verbs may be used in and, in this context, the possible significance of syntactic constructions. While many English verbs are flexible enough to allow several complementation types, not all of them do (e.g., *arrive* in 1 above); in fact, a number of lexical verbs are functionally restricted to one or the other complementation type. This poses a particular challenge for the young language learner: by and by children have to acquire the correct usage of each individual lexical verb. They first have to understand that there are different complementation patterns, next that not all verbs allow all of them and last but not least which verbs allow which complementation type(s). Could constructions as defined by Goldberg (1995, 2006) assist in this process?

In order to be able to reasonably well reflect upon such a question, it is first of all necessary to introduce a firm grammatical framework as the basis for the analysis of the use and distribution of both lexical verbs and complementation patterns within the CSB corpus in Chapter 6. The bigger part of the current chapter will therefore be devoted to terminology and concepts regarding the functions of lexical verbs in sentences or utterances that can be found in Quirk et al.'s *A Comprehensive Grammar of the English Language* (1985).

Although there are two more recent works, namely the *Longman Grammar of Spoken and Written English* (Biber et al. 1999) and the *Cambridge Grammar* by Huddleston and Pullum (2002a), this grammar has been chosen as the foundation of the present study. Biber et al. aim at providing a detailed description of the actual use of grammatical features in different varieties of English (1999: 4). In doing so, they wish to complement existing grammatical descriptions which lack the portrayal of such systematic patterns of use in English. With this overall aim in mind, Biber et al. admit to their reliance on previous descriptions of English in order to "avoid allocating too much space to justifying a descriptive framework" (1999: 6f). Despite their claim to "have tried to give equal emphasis to descriptions of both structure and use" (1999: 7), the authors keep their discussions of grammatical structures as such relatively brief. Therefore, Biber et al. (1999) is not as applicable as Quirk et al. (1985) to form the basis for the current study for which a detailed framework needs to be established before entering into a discussion of the corpus findings. Theirs is clearly a corpus-based approach which, for the most part, closely follows the descriptive framework and terminology of Quirk et al. (1985). In their introduction Biber et al. refer to Quirk et al. by stating: "*CGEL*[62] is probably the most detailed grammar of present-day English yet written, and its grammatical system has gained a broad currency through its use in other grammars, textbooks, and academic publications" (1999: 7). Their own work, the *Longman Grammar*, can be regarded as an important complement to Quirk et al. since its corpus-based findings for the most part support the theoretical body set up by the earlier work (see also Mukherjee 2006: 339).

In its layout and coverage of the various areas of English grammar the second, even more recent grammar by Huddleston and Pullum (2002a) must be considered to be

[62] *CGEL* is Biber et al.'s abbreviation of *A Comprehensive Grammar of the English Language* (Quirk et al. 1985).

at least as or even more comprehensive than Quirk et al. (1985). However, Huddleston and Pullum's work appears more theory-oriented (as compared to the more observational, data-oriented work by Quirk et al.) and more strongly influenced by generative grammar (Mukherjee 2006: 339); but it also diverges in many an area from traditional views of grammar "as it also contains a great deal that is new, if not daringly provocative, in its reworking of the well-tilled territory of English grammar" (Leech 2004: 121). One of the major differences between the two works is Huddleston and Pullum's striving for a single correct analysis in various cases – "we try to find arguments that eliminate indeterminacy and home in on a particular analysis, IF the facts can be found to fully support it" (2002b, quoted from Mukherjee 2006: 340; emphasis in the original) – in which Quirk et al. "are more apt to accept alternative analyses or to build gradience into their description" (Leech 2004: 125). Since the current study views itself as more specifically corpus-driven and less universal in its approach than Huddleston and Pullum's work and since it argues at various points against the possibility of their clear-cut categorising, favouring the concepts of multiple analysis and gradience instead, the older work by Quirk et al. seems justifiably better suited to form its foundation. Relevant excerpts from Huddleston and Pullum (2002a) will however be acknowledged and discussed in more detail in sub-section 5.4.2 within the current chapter.

5.2 Quirk et al. (1985): Verb complementation in English

To a certain extent, the importance of the verb has already been observed in Chapter 2. What has been said may be summed up by the following statements. Tomasello says about verbs: "The semantic structure of verbs thus contains what have been called 'grammatical valences,' and verbs are therefore responsible for much of the grammatical structure of a language" (1992: 6). Leaving semantics aside and focusing on syntax, Biber et al. comment on the role of the verb phrase within a clause:

> The verb phrase is central in the clause both in the sense that it is regularly found in medial position and in the sense that the valency potential[63] of the lexical verb

[63] Biber et al. use the terms valency and valency pattern and also intransitive, mono-, complex- and ditransitive complementation in their outline of the use of lexical verbs. The terms are used interchangeably by the authors despite their slightly different definitions whenever they refer to the connections that exist between lexical verbs and the number of clause elements in a clause (see Biber et al. 1999: 141).

> determines the occurrence of the other major clause elements (excepting, in general, subjects and adverbials) (Biber et al. 1999: 126).

One could add several other authors here since, in their discussions of the verb in English, linguists and grammarians have introduced numerous terminological distinctions to capture the various characteristics of the English verb. Yet however different their approaches might be, they seem to agree on one point: the importance of the verb or verb phrase. Quirk et al. do not differ in this. In their discussion of central and peripheral elements of the clause they state: "The verb element is the most 'central' element" (1985: 50). However, they maintain that the notions "central" (and "peripheral") are not to be understood as absolute:

> The distinction between 'centre' and 'periphery' is relative rather than absolute. The verb element is the most 'central' element in that (i) its position is normally medial rather than initial or final; (ii) it is normally obligatory; (iii) it cannot normally be moved to a different position in the clause; (iv) it helps to determine what other elements must occur (Quirk et al. 1985: 50).

Undoubtedly then, the verb is an important element in that it determines the structure of a sentence up to a certain degree (1985: 53). How it does so and the various possibilities of its doing so will be systematically reviewed in 5.2.2. First, however, some important notions regarding the verb categorisation conducted by Quirk et al. will be presented (5.2.1). Finally, in 5.2.3, I will discuss some of the verb categories found in the CSB corpus according to the established framework.

5.2.1 Important notions

In the following, three important notions that keep coming up in Quirk et al. (1985) and that also play a significant role in the current study will be introduced.

a) Systematic correspondences

In their classification of English clause structures Quirk et al. (1985: 57-59) make use of so-called systematic correspondences that exist on various levels between different grammatical structures and are based on meaning relations. The authors give the following definition: "A systematic correspondence [is] a relation or mapping between two structures X and Y, such that if the same lexical content occurs in X and in Y, there

is a constant meaning relation between the two structures" (1985: 57).[64] The *raison d'être* of recognising such systematic correspondences between individual grammatical structures is two-fold: on the one hand, the authors can provide explanations for the relation between grammatical choice and meaning and, on the other hand, they are able to define criteria for classification of grammatical structures and clause elements (1985: 57). So Quirk et al. show, for instance, similarities between active and passive structures (ibid.), copular and complex-transitive structures (1985: 58f) and indirect objects and prepositional phrases (1985: 59). Especially the latter are of interest in the present chapter whereas passive structures are dealt with separately in this study (Chapter 8).

b) Gradience

Throughout history grammarians have been faced with the problems of categorisation. More precisely, there have and still do exist two opposing "camps" when it comes to classifying the elements of language: those who insist "that the categories of grammar are 'hard', and membership is a matter of all-or-none" (Aarts 2004: 344) and those who permit "a certain degree of categorical flexibility – i.e. *gradience*" (ibid.; emphasis in the original). Following Quirk et al. (1985: 90), Aarts defines gradience in grammar

> […] as the phenomenon of blurred boundaries between two categories of form classes α and β, such that certain elements can be said clearly to belong to α, others indisputably to β, with a third group of elements belonging to the middle ground between the two categories (Aarts 2004: 344).

He goes on by saying that "[t]his situation is often represented by ordering linguistic entities along a linear scale with α at one end and β at the other, and a blurred area in between" (ibid.). While such a procedure lends itself to the constructivist/emergentist perspective of language acquisition adopted in the current work, it is vehemently refused by those who follow the Chomskyan perspective: "Generative linguists have always been averse to the notion of fuzziness in grammar" (Aarts 2004: 351). The developmental process assumed within a cognitive-functional framework certainly rather favours a gradient pattern which allows for "child grammar" categories between

[64] What is termed "systematic correspondences" here is closely related the Chomskyan concepts of deep and surface structure and the transformational processes that are said to exist between the two (compare, e.g., Chomsky 1965).

the endpoints of "very basic or no grammatical categories" and of "adult-like categories"[65]:

> […] the prototypically organized concepts and categories of Cognitive Linguistics are much more open to the possibility of true developmental change. Categories that do not have essential properties can evolve naturally and gradually, sometimes into very different entities (Tomasello 1992: 5).

Gradience plays an important role in Quirk et al. for whom a gradient is defined as "a scale which relates two categories of description (for example, two word classes) in terms of degrees of similarity and contrast" (1985: 90). The authors recognise and underline the fact that clear-cut grammatical categories do not always exist. They suggest accepting the idea of a gradient, for example, in the context of prepositional verbs (1985: 1162-1166), of the verb complementation types (1218-1220), modal auxiliaries (136f, 147f) and of the passive (167-171).

Hopper and Thompson (1980) indirectly also argue in favour of gradience by claiming that there exist "degrees of transitivity", *i.e.* that some clauses may be characterised as more transitive, others as less transitive. The current study implements Aart's concluding remarks in that it "allows for gradience both within and between categories, but does not do away with clearly delimited categorical boundaries" (2004: 383).

c) Multiple analysis

The term "multiple analysis" suggests that one and the same grammatical structure may be examined in two or more ways. Multiple analyses can be carried out in two different respects. For example, one can either analyse a clause according to the individual elements of which it consists (subject, object, verb, complement etc.) or in terms of subject and predicate. Both times grammatical relations are being described, yet the approaches are somewhat different and it is the aim or research question of a study that determines in each individual case which analysis is required. However, there may also be a gradient between two analyses and depending on the research perspective one or the other may be more appropriate in certain cases. As outlined above, neat boundaries do not always exist between grammatical categories, so that it is sometimes helpful to

[65] I should point out that by drawing this comparison between gradience in grammar in a gradient development of grammatical categories in language acquisition I have metaphorically taken up Quirk et al.'s (1985: 57ff) idea of "(systematic) correspondences" (as described under a)).

accept a multiple analysis of a given syntactic structure. For instance, Quirk et al. (1985: 1216f) show how an analytical approach of verb complementation different from the one they adopted can lead to slightly other results. On the one hand, it reveals a certain overlap between the so seemingly individual complementation types they themselves had defined before, but, on the other hand, it also shows that the different results are not mutually exclusive but rather best understood as distinct points on a gradient/scale (1218-1220).

5.2.2 Systematic overview of the major English verb classes

Before entering into a discussion of the various verb complementation types it is necessary to briefly say something about the major verb classes in English. According to their function within the verb phrase, verbs may be classified as either full lexical, primary or modal auxiliary verbs (compare Quirk et al. 1985: 96). While the structure of the verb phrase as such will not be considered in detail in the current study, it is still indispensable to take account of this categorisation. Full lexical verbs characteristically act as main verbs in finite and non-finite verb phrases and have between three (e.g., *put*) and five (e.g., *take*) morphological forms. They are the central group for the current study since it is these verbs that appear in the various different complementation patterns mentioned in 5.1. The three primary verbs *be*, *do* and *have* can act either as main verbs or as auxiliary verbs with different syntactic and semantic functions. Throughout the CSB corpus each single instance of these three verbs has been marked and categorised; I will say more about this group of verbs in 5.2.3. Modal auxiliary verbs will be dealt with in detail in Chapter 8.

Furthermore, I want to take a look at the seven sentence types defined as basic sentence patterns by Quirk et al. to which, according to the authors, the whole range of English clauses are related via systematic correspondences (1985: 53f). By eliminating optional adverbials from the clause structures, the authors have derived from the combination of the obligatory constituents the core of each possible clause structure and state that "[o]f the obligatory elements, the main verb is the one that wholly or largely determines what form the rest of the structure will take" (ibid.). Note that both full lexical verbs and primary verbs in their function as main verbs regularly occur in the set of patterns displayed in Table 5.1 below.

Table 5.1: English clause types (*Table* 2.16 in Quirk et al. 1985: 53)

	S(ubject)	V(erb)	O(bject(s))	C(omplement)	A(dverbial)
Type *SV*	Someone	was laughing			
Type *SVO*	My mother	enjoys	parties		
Type *SVC*	The country	became		totally independent	
Type *SVA*	I	have been			in the garden
Type *SVOO*	Mary	gave	the visitor a glass of milk		
Type *SVOC*	Most people	consider	these books	rather expensive	
Type *SVOA*	You	must put	all the toys		upstairs

I have adopted this schema from Quirk et al. in order to illustrate how main verbs govern the grammatical patterns that follow them and thus determine the overall structure of a clause. While native adult language speakers know that there are limits as to which lexical verb can be used in each of the seven clause types, young language learners first of all must develop this awareness and, secondly, learn what and where the limitations are. In the construction grammar framework "it is claimed that the set of basic clause types of a language are used to encode general event types such as those denoting that someone did something to someone, something moved […]" (Goldberg 1995: 66) and that "what children learn when they learn the syntax of simple sentences is the particular way certain basic scenarios of human experience are paired with forms in their language" (ibid.: 43). Thus, the set of clause patterns shown in Table 5.1 also plays an important role when considering construction grammar/cognitive linguistics and language acquisition, since one could argue that children's development of an understanding of argument structure constructions[66] assists them in acquiring an awareness of the flexible, yet restricted use of the various lexical verbs within them:

> Although verbs and associated argument structures are initially learned on an item-by-item basis, increased vocabulary leads to categorization and generalization. […] The child categorizes learned instances into more abstract patterns, associating a semantic category with a particular formal pattern (Goldberg 1999: 208f).

Well aware of the fact that not all combinations of the obligatory constituents are possible within the structure of the English clause, Quirk et al. (1985: 53-57) go on to subclassify the clause elements and to consider verb classes in relation to clause types

[66] Within a construction grammar framework the term "argument structure constructions" (e.g., Goldberg 1995: 24ff) is used to describe similarly basic structures. What is different, though, is the point of view: whereas Quirk et al.'s categorisation of basic sentence types operates on a purely formal-syntactic level, the concept of argument structure constructions is cognitively-based.

(see 1985: 56, Table 2.19, for a detailed illustration). On the basis of their complementation patterns, lexical verbs are organised into five classes: intransitive verbs (type SV), monotransitive verbs (type SVO), copular verbs (types SVC and SVA), ditransitive verbs (type SVOO) and complex-transitive verbs (types SVOC and SVOA). These verb classes[67] are distinct in that they require different (in number and kind) grammatical patterns that follow them, *i.e.* they are used with different complementation types. Complementation may be defined as "part of a phrase or clause which follows a word, and completes the specification of a meaning relationship which that word implies" (Quirk et al. 1985: 1150). Since many verbs are versatile enough to allow several complementation types, it will be better, however, to say that a verb is used, for instance, monotransitively or complex-transitively in a particular instance of language use instead of saying a verb (intrinsically) "is" either way. In a) to e), the five major types of verb complementation will be presented. While Quirk et al. include so-called multi-word verbs (phrasal, prepositional and phrasal-prepositional verbs) in their discussion of verb complementation types, I will deal with them separately in the current chapter (5.3), but will include them in the general corpus analysis in Chapter 6.

a) Verbs in intransitive function

A verb is said to be used intransitively when no complementation occurs, *i.e.* the verb is not followed by an obligatory element. Quirk et al. (1985: 1169) differentiate between three types of verbs within this group: "pure" intransitive verbs (verbs which never take a direct object, e.g. *arrive*, *come* or *go*), verbs which can also be used transitively without a change in meaning (e.g., *drive*, *eat* or *write*) and verbs which can also be used transitively, but with a difference in the semantic roles between the intransitive and the transitive functions (e.g., *close*, *move* or *walk*). Examples (8) to (10) show these types, distinguishing the intransitive (9a; 10a) from a monotransitive use (9b; 10b):

(8) Witch Jemima **appeared** in a bright blue flash. (CB 40)

(9a) While everyone else **ate**, D.W. just moved her food back and forth into little piles. (CB 02)

(9b) After the fish they **ate** stewed mushrooms, and then they had bilberry jam and honey. (CB 29)

(10a) […] as he sat on the picnic-basket lid to try to make it **close**. (CB 33)

[67] Quirk et al. at times talk about verb classes (1985: 56f) and at times about verb types (1150). The authors appear to use these terms interchangeably.

(10b) I **close** my eyes and breathe in its fat, red smell. (CB 32)

The phenomenon shown in (9a; 9b) and (10a; 10b) is widespread in English, *i.e.* many lexical verbs can be transferred from the transitive to the intransitive category with a greater or lesser shift in meaning. Quirk et al. (1985: 722) regard these cases as "conversion", thus interpreting them as word-formation processes rather than as syntactic processes. They argue that object omission can be regarded as a matter of conversion because it only applies to some transitive verbs but not to others (ibid.). However, within the framework of construction grammar it is said "that essentially the same verb is involved in more than one argument structure construction" (Goldberg 1995: 24) which clearly points into the direction of syntactic processes. Since it is argued that constructions such as those discussed in this chapter carry meaning independent of verbs, verb meaning and construction meaning must be integrated to yield the meaning of particular expressions (1995: 59f). Goldberg discusses various "types of relations that the verb's semantics may bear to the semantics of the construction" in order to determine "what range of verb classes can be associated with a given construction" (1995: 60). From the perspective of construction grammar it therefore follows that young children must acquire an understanding of the relations that exist between constructional and verbal meanings and how both types of meanings are integrated but they must also realise that there are constraints on these relations and that not every lexical verb can be used in any given syntactic frame (see Chapter 2 for details).

b) Copular complementation

Verbs that are followed by a subject complement or a predication adjunct as obligatory elements function as copular (or linking) verbs and have copular complementation (Quirk et al. 1985: 1171-1176). In (11) to (13), examples from the CSB corpus illustrate this complementation type:

(11) She thinks he **looks** very smart in his new clothes. (CB 30)

(12) The blue whale **is** the biggest creature that has ever lived on Earth! (CB 44)

(13) A large owl **was** on his roof. (CB 61)

As can be seen in (11), not only the verb *be* can function as a copula, but there is a whole group of such linking verbs. The CSB corpus contains 1,459 instances of copular

complementation. However, since this study primarily focuses on the complementation patterns of full lexical verbs, this first complementation type will be abandoned at this point.

c) Monotransitive complementation

Verbs that are used monotransitively occur in the SVO sentence type. They are followed by a direct object, which may be a noun phrase (14), a finite clause (15) or a non-finite clause (16):

(14) He shook the raindrops from his umbrella while Lucy **held** the bag of foods. (CB 52)

(15) […] he **decided** that his new owner meant him more good than harm. (CB 31)

(16) One day, my dad looked out at the endless desert and **decided** then and there to build a baseball field. (CB 67)

Quirk et al. (1985: 1171, 1176-1195) offer a very detailed analysis of monotransitive complementation and end up with nine different patterns. Where the direct object is a noun phrase, they further differentiate between clauses that allow a passive transformation and those that do not (1176f). With finite clauses as direct objects, they distinguish between *that*- and *wh*-clauses (1179-85). When it comes to non-finite clauses as direct objects, the biggest number of variants occurs: here Quirk et al. specify five subtypes (1185-95). Although the current study is geared to the classification system developed by Quirk et al., it does not follow it in all its details. Rather, against the backdrop of the current work's focus on language acquisition, some modifications/simplifications of the Quirk et al.-system were made.

Wherever language acquisition research looks into children's comprehension and use of verb transitivity, this is done upon slightly different terms. Firstly, researchers who adopt a constructivist/emergentist perspective on language acquisition often refrain from applying the same terminology in the context of child language as is used in reference to grammatical categories found in adult language: "Construction-based approaches imply that children's speech should not be credited with the kind of syntactic competence of which adult grammar might be composed – namely, abstract categories and combinatorial rules" (Karmiloff and Karmiloff-Smith 2001: 143). Instead they explicitly attempt "to describe children's language, or any other of their skills, in terms of concepts and structures that are (*ex hypothesis*) a part of their, not our

[adult], experience" (Tomasello 1992: 4). In the present context they therefore use terms such as "simple transitives", "simple intransitives", "locatives", "resultatives", "causatives" and so on. In this view, a simple transitive construction, for example, is used for depicting "a scene in which there are two participants and one somehow acts on the other" (Tomasello 2005: 38). The terminology is thus more semantically-oriented than the above-mentioned and familiar grammatical terms. The simple transitive construction usually assumes a person performing some kind of physical or psychological action on an object (ibid.) and consequently can be put in line with the first two subtypes of monotransitive complementation in the Quirkian system (1985): clauses where the verb is followed by a noun phrase as direct object. Yet, nowhere in the literature on child language acquisition do we find anything similar to the next seven subtypes mentioned by Quirk et al.; at first glance it seems as if finite or non-finite clauses acting as the direct object of a monotransitively used verb do not play a primary role in language acquisition studies. However, this may well be due to the fact that from early on child language researchers have treated the acquisition of complex clauses[68] as an area separate from that of the acquisition of verb transitivity (Limber 1973; Pinker 1984) because, ontogenetically, complex clauses appear somewhat later in child language than simple transitives. Studies in both areas thus adhere to slightly different research questions. Investigations centring on the acquisition of verb transitivity pursue such questions as to when children are able to differentiate between the simple intransitive and the simple transitive construction (e.g., Tomasello and Brooks 1998; Naigles et al. 2005), when they start generalising across constructions (e.g., Brooks and Zizak 2002; Abbot-Smith et al. 2004), what kind of factors might facilitate the acquisition of simple transitives (e.g., Dodson and Tomasello 1998 on the role of animate nouns; Bavin and Growcott 2000 on the relationship between transitivity and causativity; Childers and Tomasello 2001 on the role of pronouns) and how strong a role input frequencies might play (e.g., Clark and Kelly 2006; Goldberg et al. 2004; Naigles and Hoff-Ginsberg 1998; Theakston 2001). Research concentrating on the acquisition of complex sentences has been primarily concerned with the onset of

[68] Syntactically, the seven subtypes [B3]-[B9] in Quirk et al. (1985: 1171) are complex clauses: they are made up of a matrix and a subordinate clause. Diessel (2004: 48) defines prototypical subordinate clauses as "syntactically integrated […] dependent structures that are formally incomplete without the matrix clause", in which they are "semantically integrated".

children's comprehension of complex sentences (e.g., de Villiers et al. 1979; Bebout et al. 1980; Wing and Kofsky Scholnick 1981). While such investigations are of major interest against the background of the current work, more recent studies[69] also consider the developmental process in children's use of complex sentences and mainly attend to the following questions: when do the first complex sentences emerge and how does the development proceed? What characterises the earliest subordinate clauses? (Diessel 2004: 2) Once again, the ambient language is taken into account and has been shown to play a not unimportant role (Diessel and Tomasello 2001: 136).

Due to these variations between traditional grammatical approaches and proceedings in child language acquisition research it does not seem very reasonable to comply with the Quirk et al. scheme in all its details. It has therefore been modified for the current study in the following way: all the different subtypes of clausal complementation found in Quirk et al. in which a finite or non-finite clause functions either as direct object or predication adjunct within the groups of mono-, complex- and ditransitive complementation have been integrated into just one group. Thus, for the present group of monotransitively used verbs only two subtypes remain: the lexical verb is either followed by a noun phrase (marked as MTR(NP) in the CSB corpus) or by any kind of clause (marked as MTR(CL)) functioning as a direct object. In examples (17) and (18), the verb *know* is consequently complemented by members of the same subtype:

(17) […] everyone would **know**[KNOW-FV-MTR(CL)] what it **meant**[MEAN-FV-MTR(NP)]. (CB 33)

(18) Well, downstairs no one **knew**[KNOW-FV-MTR(CL)] what to **do**[DO-FV-MTR(NP)]. (CB 59)

In both (17) and (18), the verb of the matrix clause, *know* and *knew*, respectively, is complemented by a *wh*- subordinate clause functioning as direct object while the main verb of the subordinate clauses takes in each case a noun phrase as its direct object.[70]

I would like to conclude the discussion of monotransitive complementation by adding two final comments regarding the *modus operandi* in Quirk et al. Firstly, the authors introduce the notion "middle verbs" by which they refer to "a small group of

[69] The most comprehensive and first observational study to systematically examine the development of complex sentences in child language is Diessel (2004).
[70] On the range of functions of the *wh*-elements in *wh*-questions and *wh*-interrogatives, see Quirk et al. (1985: 818f, 1051).

apparently transitive verbs, the most common of which is *have*" (1985: 735f). The term middle verbs is supposed to account for the fact that these verbs do not occur in the passive and are thus not "immaculate" members of the transitive verb group, yet they also have characteristics typical of transitive verbs (such as requiring the objective form in pronouns that have that form when followed by a noun phrase). Secondly, special mention is made of extent and measure phrases. Here, Quirk et al. claim that "[n]oun phrases of measure after certain verbs denoting measure and phrases of extent in space are indeterminate between direct object and adverbial" (1985: 735). Without wanting to devaluate these ideas, both kinds of lexical verbs, *i.e. have* and others ranging in the group of middle verbs as well as verbs followed by extent and measure phrases, are treated as transitive verbs with the corresponding complementation patterns in the current study since the fine-tuned discrimination made here by Quirk et al. is assumed to be beyond the understanding and developing linguistic representation of the young language learning child.

d) Complex-transitive complementation

Characteristically, verbs that are used complex-transitively occur in clause patterns in which the direct object is followed by another either syntactically or semantically necessary clause element. This additional element is not an object (thus, these verbs are not used ditransitively), it is, however, an essential part of the clause the meaning of which would change if the clause element in question was to be left out. Quirk et al. say of complex-transitive clauses that "the two elements following the verb (*eg* object and object complement) are notionally equated with the subject and predication respectively of a nominal clause" (1985: 1195). An example will illustrate what this means:

(19) Osbert **found** it rather difficult […] (CB 52) – complex-transitive

(19a) Osbert **found** that it was rather difficult […] – monotransitive

(19b) Osbert **found** it to be rather difficult […] – complex-transitive

In (19), *it* (the direct object) and *rather difficult* (the adjective phrase functioning as object complement) are equivalent in meaning to the *that*-clause in (19a). The expansion of the object complement into an infinitive clause (19b) does not change this relationship; however, *it to be rather difficult* does not function as one syntactic unit, as becomes evident in the passive:

(19b') It **was found** (by Osbert) to be rather difficult […].

Here, the direct object is separated from its complement. "This divisibility into two elements of a semantically clausal construction following the verb is the defining property of complex transitive complementation" (Quirk et al. 1985: 1195). The annotation of the CSB corpus regarding complex-transitively used verbs is based on this defining property given by Quirk et al. In order to be able to distinguish these patterns from very similar patterns found with monotransitively used verbs one additional aspect also found in Quirk et al. (1985: 1202-03) was adapted to the current study. It relates to cases where the direct object is followed by a non-finite clause (a *to*-infinitive as in 20 below or an *-ing* participle as in 21) acting as a predication adjunct. On the surface these seem indistinguishable from the examples given in (22) and (23)[71]:

(20) The farmer **trained** her to run wide and lie down, to walk on behind, to shed and to pen. (CB 08) – complex-transitive

(21) […] you might **catch** him scurrying across your garden. (CB 48) – complex-transitive

(22) She **wanted** Bernard to make funny faces at her. (CB 02) – monotransitive

(23) She **hates** the train being late. (Quirk et al. 1985: 1203) – monotransitive

While in (22) and (23) the non-finite clause has a subject of its own – *Bernard* and *the train*, respectively – this is not the case in (20) and (21): here the implied subject of the non-finite clause is its preceding noun phrase – *her* and *him*, respectively – which is the direct object of the main clause. This syntactically distinctive feature of complex-transitive clauses becomes once again evident when the corresponding passives are formed:

(20a) She **was trained** (by the farmer) to run wide and lie down, to walk on behind, to shed and to pen.

(21a) […] he might **be caught** (by you) scurrying across your garden.

In both cases the noun phrase preceding the non-finite verb becomes the subject of the corresponding passive clause. In contrast, passivisation is impossible with (22) and (23) (compare Quirk et al. 1985: 1193-1203). A further differentiating aspect regarding the group of verbs in the categories "object + *-ing* participle complementation" (complex-transitive) and "complementation by *-ing* participle clause with subject"

[71] No example for the complementation with *-ing* participle with subject could be found in the CSB corpus. Thus, the example in (23) was added to complete the illustration.

(monotransitive) is seen in the fact that the noun phrase following the superordinate verb can only take the genitive form in the latter pattern (24), while the meaning of the clause, once the *-ing* predication is omitted, remains more or less unchanged only in the former pattern (25):

(24) I **dislike** him/his driving my car. [72] (Quirk et al. 1985: 1194) – monotransitive
[→ does not entail: I dislike him]

(25) […] you might **catch** him scurrying across your garden. (CB 48) – complex-transitive
[→ entails: you might catch him]

(25a) *[…] you might **catch** his scurrying across your garden.

Taken together, these criteria help clarify some of the problems that arise with regard to the complex-transitive complementation patterns. A remaining problematic feature related to this type of verb complementation will be discussed below. Quirk et al. distinguish seven subtypes of complex-transitive complementation. As with monotransitive complementation, however, the number of subtypes has been reduced for the purposes of the current study: following the explanation offered in c) above, the four different cases in which the obligatory predication adjunct is a non-finite clause ([C4]-[C7] in Quirk et al. 1985: 1171) have been merged. The four remaining subtypes within the group of complex-transitive complementation patterns are: CTR(+ADJ); CTR(+NP); CTR(+A); CTR(+CL). The following corpus instances give an example for each pattern:

(26) Suddenly, he **heard** something very strange. (CB 16)

(27) They started **calling** me "Shorty", but they smiled when they said it. (CB 67)

(28) She **put** some lettuce leaves in a tiny bag. (CB 52)

(29) He probably **saw** the other kids giving me a bad time […]. (CB 67)

While the first underlined noun phrase in each case functions as the direct object, the functions of the obligatory elements that follow the direct object differ. The adjective phrase in (26) and the noun phrase in (27) are object complements (sentence type SVOC), whereas the adverbials in (28) (in form of a prepositional phrase) and in (29) (in form of the *-ing* clause) function as predication adjuncts (sentence type SVOA).

[72] The aforementioned example (23) from Quirk et al. has been replaced here by a different example in order to demonstrate the usage of the genitive form. Whenever the noun phrase preceding the participle is not a pronoun and does not have personal reference, the genitive option sounds slightly awkward (Quirk et al. 1985: 1194).

Problems regarding examples like (29) have already been addressed above. It will soon become clear why the complex-transitive complementation type is still the least tangible one. Examples such as (28) are quite straightforward: in the Standard English dialect the verb *put* always requires an adverbial as otherwise the meaning of the verb is not "complete" (Quirk et al. 1985: 52).[73] Thus, the prepositional phrase *in a tiny bag* is obligatory. However, there are other instances that are not quite as clear. Firstly, it is not always easy to tell whether or not the meaning of a verb is complete even without an adverbial or in how far it remains unchanged when an adverbial is removed. Thus, it is sometimes difficult to decide when an adverbial is really obligatory and when it is not. Secondly, the "distinction between obligatory adjunct and complement is not clear-cut for all prepositional phrases" (1985: 732), *i.e.* they may function as both. The latter poses a within-group categorisation problem – independently of the status of the prepositional phrases the verbs in question would still be classified as complex-transitively used verbs, the only difference being in the sentence types: SVOA or SVOC – and can thus be disregarded in the context of the current study. The former, however, is more far-reaching: if the adverbial in question is categorised as obligatory, the verb would have to be said to be used complex-transitively. But if it is categorised as optional, the same verb would be used monotransitively. Thus, the status of the adverbial is decisive, although, as already indicated before, by no means in all cases as unambiguous as one might wish. The following examples illustrate the "dilemma":

(30) Soon they met two people **carrying** their harvest home, a hare and a hedgehog. (CB 29)

(31) […] and **poured** the bubbling green liquid out of the pot and into a bottle. (CB 40)

(32) Stan **parked** Little Red Tractor in the shade of the tree. (CB 12)

While there is little doubt regarding the status of the adverbial (*home*) in (30), the status of the adverbial in (31) – *out of the pot* (and also *into the bottle*) – is already not quite so clear. Is it really obligatory for the completion of the meaning of *poured*? Would the meaning of the sentence really change significantly if we omitted these adverbials? In (32), the adverbial (*in the shade of the tree*) is most certainly optional: it could be

[73] Note that in other varieties of English, e.g. Indian English, a monotransitive usage of *put* is common: "*Put* is often used without an explicit destination or direction, so an Indian might say 'Shall I put the tape?' or […] 'put an image'" (Baldridge 2002).

omitted without a change in the verb's meaning or moved to the beginning of the sentence. One could thus argue that the verb *carry* in (30) is used complex-transitively and the verb *park* in (32) is used monotransitively. *Pour* in (31) could be placed somewhere between these two. If we think of monotransitive and ditransitive verb complementation as endpoints of a gradient, examples of complex-transitive complementation can be seen to be placed at some point on the scale between these two (Quirk et al. 1985: 1216-1220). In such a gradience model, example (31) would be located slightly more off this point and towards the monotransitive endpoint. Note, however, that, based on the semantics of the verb and the adjunct, verbs such as *pour* in (31) have also been marked as complex-transitive throughout the current work. Compare Quirk et al. (1985: 1201): "The most characteristic adjuncts to occur in this pattern are prepositional phrases of space, and more particularly of direction […]. Many of the verbs which fit into this pattern are causative verbs of motion […]." That there still remained some border cases that were not easy to pin down – "since verbs normally without causative meaning can be adapted to this function" (ibid.) – must be accepted as an intrinsic property of gradience.

In the context of monotransitive complementation I already discussed some terms which are preferred by constructivist/emergentist theorists when referring to developing child grammar. Causatives and resultatives are among these terms.[74] Both are important for the current theme since causatives partially correspond to the complex-transitive subtypes CTR(+CL) and CTR(+A) and resultatives to CTR(+ADJ). Again the terminology is far more semantically based. "Causative verbs depict an action in which an agent causes something to happen" (Guasti 2002: 87), *i.e.* an agent may force a patient to perform an action (33) or to be in a certain state (34). The resultative construction (35) is used to indicate both an action and the result of that action.

(33) […] and Cat **helped** him look for the others. (CB 33)

(34) Witch Jessica **dropped** a magic spell down Witch Jemima's chimney. (CB 40)

(35) We **kept** him quiet all day […] (CB 42)

The prominence of these terms in the literature on child language acquisition explains while we hardly find any reference made to children using verbs in the complex-

[74] But Goldberg (1995), for instance, also uses the terms "caused-motion" and "resultative construction" as does Bevin (1993); the terminology is thus not restricted to or reserved for the context of child language acquisition.

transitive function. I will come back to causatives and resultatives in the discussion of complex-transitively used verbs in the CSB corpus (Chapter 6).

e) Ditransitive complementation

With regard to the sentence type SVOO Quirk et al. (1985: 1171) distinguish six complementation subtypes. In its basic form, also called the double-object dative, ditransitive complementation involves two noun phrases with the first one of them normally functioning as the indirect object and the second as the direct object (Mukherjee 2005: 65). A similar complementation pattern emerges when the lexical verb is a prepositional verb. Again, the verb is followed by two noun phrases; however, either the direct or the indirect object is then replaced by a so-called prepositional object. Examples (36) to (38) taken from Quirk et al. (1985: 1209) may demonstrate this scenario:

(36) Mary **told** only John the secret. (indirect object + direct object)

(37) Mary **told** the secret only to John. (direct object + prepositional object)

(38) Mary **told** only John about the secret. (indirect object + prepositional object)

Although prepositional verbs will be dealt with in 5.3, the notion "prepositional object" must be examined more closely at this point before continuing the discussion of ditransitive complementation. For sentences such as (38) there are two possible analyses: if the prepositional phrase *about the secret* is regarded as a predication adjunct, the verb *tell* could be said to be used here either monotransitively or complex-transitively depending on the status of the adjunct (optional vs. obligatory). The corresponding sentence types would thus be SVO and SVOA, respectively. However, one could also analyse *tell about* as a multi-word verb (in this case a prepositional verb) and arrive at the above-given interpretation, namely that the noun phrase *the secret* functions as a prepositional object and the corresponding sentence type is SVOO. Another example from the CSB corpus will further illustrate the alternative analyses in such cases:

(39) When I stepped back up to the plate, I **looked at** the pitcher. (CB 67)

The main clause in example (39) could either be interpreted as

[[I]	[looked]	[at the pitcher]]	or as	[[I]	[looked at]	[the pitcher]]		
S	V	A		S	V	O		

Arguing in favour of the second analysis one could say that the verb and the preposition form a lexical unit here and can be replaced by a single word (e.g., *eye*, *inspect* or *watch*) with the noun phrase *the pitcher* as its complement, that the noun phrase *the pitcher* can become the subject of a corresponding passive (*the pitcher was looked at*), that it can be elicited with a *who*?-question and that the preposition and the prepositional object cannot be omitted without injuring the structure and meaning of the clause: **When I stepped back up the plate, I looked* (compare Biber et al. 1999: 149f). The following can be said about the formal and semantic characteristics of prepositional objects: "Prepositional objects express many of the same semantic roles as direct and indirect objects; the main difference is that there is a relational marker, which sometimes makes the meaning relationship more explicit" (Biber et al. 1999: 130). Formally, prepositional objects are realised by noun phrases and nominal clauses (*-ing*-clauses and *wh*-clauses), they are in the accusative case of pronouns (e.g., *I gave the book to* ***her***.) and are normally placed after the verb phrase (ibid.: 129).[75]

Apart from the double-object dative and the ditransitives formed with prepositional objects, Quirk et al. (1985: 1171) distinguish four further complementation subtypes in the current group (compare also Mukherjee 2005). All four of these follow the pattern "indirect object + clause (functioning as direct object)" and were thus again merged into just one subtype in the context of the current study. The analysis in Chapter 6 will be based on the following ditransitive complementation patterns: DTR(NP/NP); DTR(NP/PP); DTR(NP/CL) and DTR(PP/CL).[76] Some lexical verbs can be used in several of these patterns, yet others cannot (the so-called dative alternation). Again, it is for the language acquiring child to work out the relations between constructional and verbal semantics and to acknowledge their constraints.

Finally, a comment regarding the *modus operandi* in Quirk et al. (1985) has to be included here. When discussing the possible omission of objects (722f; mentioned under a) above), the authors suggest analysing a verb as transitive even if the direct object is omitted as long as a specific direct object is recoverable form the preceding

[75] That the notion of prepositional objects (and thus also of prepositional verbs) is nevertheless not a universally accepted one among grammarians will be shown in 5.3 and 5.4.2.

[76] Note that in studies on language acquisition it is common to differentiate only between the terms "double-object datives", "*to*-datives" and "benefactives" (in reference to the *for*-dative construction) (Tomasello 2005: 39) or between the "double-object construction" and the "prepositional construction" (Gropen et al. 1989: 204).

linguistic context. This suggestion was not taken up in the analysis of the CSB corpus. Instead, a verb was marked as intransitive if not followed by a direct object, whether or not this was recoverable from the textual context. Furthermore, Quirk et al. (1985: 727) refer to the only present object (*her* in example 40 below) still as the indirect object arguing that it is the direct object (e.g., *how to speak properly*) that is omitted in such cases:

(40) "I'll **teach** her if you like! […]" (CB 04)

However, within the current study such instances were uniformly marked as monotransitive since this is also the procedure followed in most input studies which will serve as the basis for comparison later on in this study.[77]

5.2.3 Verb categories in the CSB corpus

While the distribution of the lexical verbs in the CSB corpus across the five main complementation types described above will be the subject of Chapter 6, I will now offer a brief overview of the distribution of, firstly, the three primary verbs *be*, *do* and *have* across their functions as either main or auxiliary verbs and, secondly, of some "exotic" constructions which certainly – each in its own way – also pose acquisition problems yet will not be discussed any further in the current work.

a) The primary verbs *be*, *do* and *have*

It was already said that the three primary verbs *be*, *do* and *have* are special in that they can either function as main verbs or as auxiliaries. *Be* as a main verb has a copular function (41), whereas as an auxiliary it can either function as an aspect (42) or passive auxiliary (43):

(41) Just behind the eye **is** a hole, as small as the end of a pencil. (CB 44)

(42) He had **been** saying the same things for years. (CB 69)

(43) They **were** made out of wood and their faces were very plain. (CB 26)

[77] In this respect, the current study comes closer to Huddleston and Pullum (2002a), who state: "In canonical clauses containing just one object, that object is always a direct object, even if it corresponds semantically to the indirect object of a ditransitive clause […] O^i is found only in combination with O^{d}," (251).

Table 5.2 shows the distribution of *be* across these two functions (main verb and auxiliary) for the CSB corpus.[78] As can be seen, *be* occurs almost four times as often as a main verb than it does as an auxiliary.

Table 5.2: *be* as main and as auxiliary verb in the CSB corpus (total numbers)

	main verb *be* (VCOP)	***be* as auxiliary** (VAUX)	**tag questions**
Number of instances	1,267	324	6

The verb *do* as a main verb can act "as a general-purpose agentive transitive verb" (Quirk et al. 1985: 135) or "can combine with a pronoun object to act as a pro-predication referring to some unspecified action or actions" (ibid.: 134). In British English, *do* is also found as an intransitive substitute verb (ibid.: 875). As an auxiliary, *do* functions as a so-called "dummy" operator in various uses, for example in clause negation, question constructions (including tag questions), emphatic constructions and reduced clauses (ibid.: 133f). The distribution of the verb *do* across its various functions in the CSB corpus is displayed in Table 5.3. In the case of *do*, it is clearly its function as auxiliary that dominates the overall picture.

Table 5.3: *do* as main verb and as auxiliary in the CSB corpus (total numbers)

	***do* as main verb**		***do* as auxiliary**	
Number of instances	transitive	intransitive	"dummy"	tag question
	66	41	243	4

Have as main verb is normally used monotransitively, *i.e.* it is complemented with a direct object. As an auxiliary, *have* is used to indicate perfective aspect. The distribution of *have* among these two main functions is as follows:

Table 5.4: *have* as main verb and as auxiliary in the CSB corpus (total numbers)

	***have* as main verb**	***have* as auxiliary**
Number of instances	186	231

Of the 186 instances of *have* as main verb eleven are instances of *have got*, the more informal form used in British English. The verb *have* furthermore occurs as part of the semi-auxiliary *have to* (51 instances). Note that no tag questions formed with *have* were found in the CSB corpus; nor was the modal idiom *have got to* accounted for at all. The

[78] Whether or not the following corpus data is in line with similar investigations remains an open question at this point since no sources for comparison were found; Biber et al. (1999) do not supply similar overviews of the distribution of the three primary verbs across their different functions.

various formal and functional aspects of the verb will be discussed in detail in Chapter 7.

Just as I did not treat *have* as a middle verb as suggested by Quirk et al. (1985: 735f), I also abstained from the notion of a *have*-existential device (ibid.: 1411f). Instead, all instances of *have* followed by a noun phrase or clause (and, potentially, by a further element) were uniformly marked as monotransitive or complex-transitive, depending on the sentence type.

b) Other verb-related constructions

There is a number of verb or verb-related constructions in English that called for special annotation and deserve to be briefly mentioned here. First of all, there are so-called catenative verb constructions. By this Quirk et al. (1985: 146f) refer to verbs that combine with a following non-finite verb (where the term "catenative" means 'chaining') such as *manage to*, *seem to* or *keep on* in the following examples:

(44) So, despite a few narrow escapes, the Easter Bunny still **manages to** arrive safely at your front door. (CB 48)

(45) It **seemed to** be coming from underneath them. (CB 36)

(46) If you **keep on** turning left, where do you get to in the end? (CB 29)

It is important to note that such "catenative constructions are in no way related to transitive verb constructions in which the verb is followed by a direct object or prepositional object" (1985: 146f). These constructions rather "have meanings related to aspect or modality" (ibid.). They were thus marked accordingly in the CSB corpus.[79]

Secondly, the first-person imperative marker *let's* in sentences such as (47) must be considered:

(47) **Let's** get ready to celebrate. (CB 14)

The form in (47) is no more than an introductory particle and must not be confused with the ordinary second-person imperative of *let* as a transitive verb in (48):

(48) **Let** us go. (Quirk et al. 1985: 830)

[79] For further remarks on catenative verb constructions see the comments made by Standop (2000) which are discussed in 5.4.1.

While the appropriate tag question for (47) would be formed with *we*, the tag question for the lexical verb *let* in (48) would have to be formed with *you* (Quirk et al. 1985: 830):

(47a) Let's get ready to celebrate, shall we?

(48a) Let us go, will you?

Biber et al. (1999: 1117) say of *let's* that "it is an invariant pragmatic particle introducing independent clauses in which the speaker makes a proposal for action by the speaker and hearer". Parallel to the "empty" operator *do* all such particle-like instances of *let's* were marked as "auxiliary verb" (VAUX; 19 instances were found).

A third construction that has to be mentioned here is the so-called "existential *there*"-construction. Based on the notion of systematic correspondence, Quirk et al. (1985: 1403ff) relate the seven basic clause types to existential forms. However, due to the focus on lexical verbs, I did not dwell on such correspondences in the current study and simply marked all instances of *there* + *be* as existential constructions [EX] without further inspecting them.

Finally, there is the so-called process of clefting by which the information structure of a sentence is changed and information that could be given in a single clause is broken up and instead given in two clauses, each of which has a verb of its own (Biber et al. 1999: 958). Examples (49) and (50) are taken from the CSB corpus:

(49) "It**'s** something that **walks** on two legs." (CB 45)

(50) "I've got it! What we **need is** a pinch of FIZZ!" (CB 40)

In (49), we have an example of *it*-clefts and in (50) one of *wh*-clefts. Since in both cases the reorganising of the sentence leads to a different structure and distinct verb complementation patterns, the sentences in question are each identified as "cleft" in the CSB corpus and their verb forms remained excluded from the analysis of lexical verbs.

5.3 The status of phrasal, prepositional and phrasal-prepositional verbs

Verb-particle combinations such as *set off*, *look at* and *look forward to* in examples (51)-(53) are often referred to as multi-word verbs in the literature:

(51) They **set off** together into the night. (CB 52)

(52) Everyone **looked at** the shop. (CB 53)

(53) That's what we **look forward to** when we play at Wrigglesworth, Elsie's famous cricket tea! (CB 12)

Multi-word verbs are a peculiar part of the English language. They occur in almost all language registers and yet their status is not at all clear or uniformly recognised by grammarians. While some still argue against the existence of such formulaic and relatively fixed verb-particle combinations (e.g., Huddleston and Pullum 2002a), they are nevertheless "widely recognized as a feature of Modern English" (Brinton 1996: 189) by now. Multi-word verbs are combinations of verbs with adverbial or prepositional particles that act "as a single word lexically or syntactically" (Quirk et al. 1985: 1150). The *Collins Cobuild Dictionary of Phrasal Verbs* (Sinclair 2002) uses the term "phrasal verbs" as a cover term for all the combinatory alternatives, *i.e.* it does not differentiate between different types of particles. Quirk et al. however say of the particles that "[t]hey actually belong to two distinct but overlapping categories, that of prepositions and that of spatial adverbs" (1985: 1150). Accordingly, they distinguish between phrasal verbs (lexical verb plus adverb particle), prepositional verbs (lexical verb followed by a preposition) and phrasal-prepositional verbs (containing, in addition to the lexical verb, both an adverb and a preposition) (ibid.: 1152ff). Yet the delimitation of phrasal verbs from prepositional and phrasal-prepositional verbs as well as from "verb + adverb" sequences devoid of any idiomatic status is not easy (Brinton 1996: 188f). The determination of the word classes of the particle poses a first problem: while some such as *against*, *for* and *with* are clearly prepositions and some such as *away*, *back* and *out* clearly adverbs, there are others such as *about*, *by* and *off* which can be either prepositions or spatial adverbs (Quirk et al. 1985: 1151). Consequently, the distinction between these similar-looking constructions – phrasal vs. prepositional verbs – is not always a straightforward task. Quirk et al., however, name six differences between phrasal and prepositional verbs all based on syntactic and phonological characteristics of the particle which assist in distinguishing between the two types of verbs (1985: 1166f).

Secondly, with both phrasal and prepositional verbs idiomatic constructions must be distinguished from non-idiomatic constructions (ibid.: 1162f):

(54) Harry **gave up** and walked slowly to the gate […] (CB 25)

(55a) While Alfie was **eating up** his cereal […] (CB 01)

(55b) The sheep started **drifting away**. (CB 08)

(56) Two policemen came and they **walked** slowly **up** the stairs. (CB 59)

The examples given in (54) to (56) describe a gradient. In (54), *gave up* is "highly idiomatic" in that there is no possibility of contrastive substitution (**give down*); *give up* is used here in the sense of 'stop doing something'. *Eat up* and *drift away* in (55a and b) are "semi-idiomatic" constructions: the substitution of one verb for another (e.g., *drink up*, *use up*), or one particle for another (e.g., *fly away*, *gallop away*) is constrained by limited productivity. (56) is an example of a "free, non-idiomatic" construction, where the individual meanings of the components remain constant across possible substitutions:

walk – up/down/in/out/past/through…

walk/come/go/crawl/run/fly… – up

In the current study, both highly idiomatic and semi-idiomatic constructions have been marked as phrasal verbs. In the case of prepositional verbs, syntactic criteria must be considered as well in order to determine whether or not a sequence of "verb + preposition" must be regarded as a prepositional verb or as a free combination. It has already been pointed out in 5.2.2 e) above that clauses like the one below (example 39 is repeated here) basically allow for two alternative analyses:

(39) When I stepped back up to the plate, I **looked <u>at</u>** <u>the pitcher</u>. (CB 67)

[[I] [looked] [at the pitcher]]			*versus*	[[I] [looked at] [the pitcher]]		
S	V	A		S	V	O

In the context of the present discussion the second (SVO) analysis is preferred to the first (SVA) analysis: *look at* is treated as a prepositional verb and the term prepositional object is applied to *the pitcher*. In Chapter 2.4.2, it was argued that a substantial portion of language in use is made up by formulaic sequences of various types and sizes. Phrasal, prepositional and phrasal-prepositional verbs, albeit to different extents, can be seen to form part of such language formulaicity. Recognising the existence of prepositional verbs as units of language rather than as individual words explains the preference for the second over the first analysis in the example above. Quirk et al. list the following criteria for distinguishing prepositional verbs from free combinations: the prepositional complement can only become the subject of a corresponding passive sentence if the preposition is part of an idiom (1985: 1164f) and the formation of *wh-*

questions with the pronouns *who(m)* and *what* (in contrast to adverbial question forms such as *where*, *when* or *how*) only works with prepositional verbs (ibid.: 1165). However, the authors immediately qualify their own statements by admitting that "none of the criteria for prepositional or phrasal-prepositional verbs are compelling" and suggest that "it is best to think of the boundary of these categories as a scale" (ibid.). Even when further syntactic tests such as looking at the behaviour of the prepositions in relative clauses or at the formation of cleft sentences are included, the situation is far from clear-cut (de Haan 1988: 122-125).

In the current work I nevertheless made use of the suggested tests when annotating the CSB corpus with regard to phrasal, prepositional and phrasal-prepositional verbs striving for as much consistency as possible in the analysis. Yet, regarding both the annotation process as much as the discussion of the quantitative analyses in Chapter 6, one has to bear in mind the concept of gradience which stands *vis-à-vis* clear-cut, unshakeable categorisations.

With this section the establishment of the grammatical framework upon which my analyses are based, of its adaptations to the present work and of the main supplementary factors is completed. But before I move on to the illustration of my findings (Chapters 6-8), I will turn my attention to two related approaches to English verb complementation which are closely connected with the areas discussed thus far. Why I have nonetheless settled on the Quirkian approach in my study will be clarified in the course of this little detour.

5.4 Challenging Quirk et al. (1985): Contrasting approaches

So far, I have primarily drawn upon the schemes and the relevant argumentation for or against alternative ways of analysing verb-related structures as found in the work of Quirk et al. In addition, Biber et al.'s work (1999) has been introduced. Based on the *Comprehensive Grammar of the English Language* it serves as a valuable corpus-based supplement to Quirk et al. (1985): "[…] the objects of inquiry of CGEL (i.e. the variety-independent common core) and of LGSWE (i.e. the variety-dependent features of the four core registers) obviously complement each other" (Mukherjee 2006: 339).

However, since neither the adopted Quirkian categorisation scheme, nor the acceptance of gradience in certain areas of grammar have gone without commentaries,

the actual corpus analysis is preceded by a brief review of two works which are relevant in the context of the current study.

5.4.1 Standop (2000)

In 2000, the German linguist Ewald Standop published a paper on *Englische Verbkomplementation* which discusses in great detail two lines of approach with regard to English verb complementation: that of generative grammarians and that of Quirk et al. (1985). Although he generally regards the work of the latter as superior to what the generativists have to offer, he still accuses Quirk et al. "of some serious mishandlings of certain structures" and suggests "[s]ome improvements within the framework of the 'London Grammar'", as he calls the work by Quirk et al. (Standop 2000: 217). These "improvements" are to a large extent based on Palmer's model of English catenatives. Palmer (1974: 168) recognises the following four types of verb forms by which a catenative may be followed:

bare infinitive	*He helped [them] wash up.*
to-infinitive	*He wants [them] to go to London.*
-*ing* form	*He keeps [them] talking about it.*
-*en* form	*He got shot in the riot. (He had the rioters shot.)*

He furthermore states that "a noun phrase may or may not occur between the catenative and the following verb" (ibid.; NPs are given in brackets in the examples above). In his critique, Standop first addresses several examples "cutting across the transitive categories" (*i.e.* across the categories of mono-, complex- and ditransitive complementation and the various sub-categories as outlined in Quirk et al.) which are, according to him, wrongly analysed by Quirk et al. Most of his examples concern those complementation sub-patterns in the Quirk et al.-scheme which either include a *to*-infinitive or prepositional verbs (Standop 2000: 220-231). In Standop's view, the authors often go too far in their interpretation of systematic correspondences: "Die Neigung, stilistisch-semantische Varianten trotz unterschiedlicher Syntax gleichen Grundstrukturen zuzuordnen, ist allerdings für die Londoner Grammatik typisch" (2000: 221). He accuses Quirk et al. of logical flaws and inconsistencies (ibid.: 218) and at least partly brings about the collapse of the Quirkian scheme: he first suggests a partial merging of the individual groups (ibid.: 220-231), yet later also questions the

remaining ones (ibid.: 231f). From this follow his "improvements" of the Quirk et al.-scheme, namely to introduce two additional categories [E] and [F] (Standop 2000: 252-255). [E] is based upon Palmer's four basic catenative structures; Standop suggests a separate category for all those verbs that are complemented by an infinitive phrase and thus, based on Palmer's classification of the catenatives (1974: 166-211), argues in favour of a broader definition of catenatives than the one given in Quirk et al. (1985: 146f). Standop's category [E] comprises 16 sub-categories and is therefore by no means less complex than the Quirkian scheme. With [F], Standop introduces a separate category for verbs that are followed by an "Appositivsatz mit *that*" since he regards the classification of such *that*-clauses otherwise as problematic (2000: 254f). Five sub-categories are distinguished under [F].

Despite its acknowledgement of Standop's (2000) remarks the current work does not adapt to his so-called improvements for the following reasons: on the one hand, Standop's suggested modifications do not lead to a less complex scheme; instead, there are now six major verb complementation types with numerous subtypes. His might be a more fine-tuned and accurate model, yet for the purposes of the current analysis it is of little help. As outlined in section 5.2.2 above, the complexities of the Quirkian scheme have already been reduced in order to be applicable to the present study and to better match the developmental steps accounted for in the study of child language (acquisition). On the other hand, Palmer's broad definition of catenatives as incorporated into Standop's improved system of English verb complementation is contradictory to the systematics applied in child language research where the verbs in sentences such as the ones given in (57) and (58) below are clearly treated as full lexical verbs complemented by a clause[80]:

(57) Peter **promised** that he would come.

(58) Sue **wants** Peter to leave.

Both *promise* and *want* would have to be classified as catenatives in the Palmer/Standop framework, though, and discrepancies are bound to arise. Against the background of the scope and aim of this study, I contend that the simplified and adjusted version of the Quirk et al.-scheme is sufficient for the analyses that follow in Chapter 6.

[80] Examples taken from Diessel (2004: 1).

5.4.2 Huddleston and Pullum (2002)

In the "Preliminaries" to *The Cambridge Grammar of the English Language* Huddleston and Pullum state that "the primary goal of this grammar is to describe the grammatical principles of Present-day English rather than to defend or illustrate a theory of grammar" (2002a: 18) but they immediately admit that such a description without any theory is impossible (ibid.). However, the authors emphasise that theirs is still a specific approach:

> […] although this grammar is descriptive like the great traditional grammars that have been published in the past, it is not traditional in accepting past claims and analyses. We depart from the tradition of English grammar at many points, sometimes quite sharply (Huddleston and Pullum 2002a: 19).

Thus, at various points Huddleston and Pullum come up with very different solutions to questions of grammar and "provide detailed arguments to convince the reader that [they] have broken with a mistaken tradition, and […] made the correct decision about how to replace it" (ibid.). In contrast to Quirk et al. (1985), for whom "meaning" formed an important ingredient in their discussion of grammatical features, Huddleston and Pullum explicitly say that "it is necessary to focus on form" (2002a: 31). Only at a language-general level, *i.e.* when it comes to comparing the grammar of different languages, meaning may be taken into consideration as well (ibid.). In the following, the divergence between Quirk et al. and Huddleston and Pullum is shown by means of two examples that are of interest for the present work.

Quite generally, Huddleston and Pullum say "dependents of the verb in clause structure are either complements or modifiers" (2002a: 52). When it comes to defining such "complements", however, the authors, at least in some respects, express quite different opinions in comparison to Quirk et al. (1985). The latter use the term "complement" in a quite narrow sense, applying it only to noun and adjective phrases which function as subject or object complements (1985: 55), whereas the former make use of a very broad sense of "complement", subsuming complements, objects and obligatory adverbials as defined by Quirk et al. Huddleston and Pullum also introduce the notion of complex-transitively used verbs and then refer to the complement in SVOC as "predicative complement". However, beside a complex-transitive, they also introduce a complex-intransitive category (Huddleston and Pullum 2002a: 218) that corresponds to Quirk et al.'s sentence type SVC in (59):

(59) But now, as they searched for a clue around a signpost at the edge of the park, it didn't **seem** quite so easy. (CB 37)

Yet, within neither one of these "complex groups" do we find any structure corresponding to Quirk et al.'s SVA or SVOA sentence patterns. Huddleston and Pullum seem to refrain from the existence of an obligatory predication adjunct as acknowledged by Quirk et al. altogether; in their view, adjuncts do not fall into the group of obligatory complements: "[An] important property of complements is that they are sometimes obligatory, whereas adjuncts are always optional" (2002a: 221). Thus, their groups of complex-transitively (and -intransitively) used verbs are restricted to the SVC and SVOC patterns.

Although Huddleston and Pullum also recognise a group of verbs as "prepositional verbs", the definition they give departs significantly from what was discussed in 5.3 above: "Verbs like *refer* which select a specified preposition we call **prepositional verbs** (2002a: 273; emphasis in the original). […] since we don't analyse that as a single constituent, we apply the term just to the verb, i.e. in this case to *refer* itself" (2002a: 274, note 43). They do away with "the common view according to which specified prepositions form a constituent with the verb" (ibid.: 277) which they find unsupported in their analytical approach. Consequently, Huddleston and Pullum do not approve of the notion "prepositional object" either. Furthermore, they explicitly exclude the term "phrasal verbs" from their grammar, again stating that despite their idiomatic interpretations the verb-particle-combinations in question do not form a syntactic constituent (2002a: 274). Whenever referred to, this group of verbs seems to be one with the group of prepositional verbs.

These are just some of the cases in which Huddleston and Pullum's approach differs markedly from that of Quirk et al. Others are, for instance, their statements regarding catenative verbs (2002a: 1176ff) or their treatment of content clauses in object position (2002a: 1017). Being more theory-oriented than Quirk et al., Huddleston and Pullum have little room for gradience, frequency effects and corpus-based analyses; however, for the current work both its corpus-based approach and frequency effects in

language use as well as the acceptance of gradience are of major importance so that the Quirkian (1985) approach altogether far better serves its purposes.[81]

5.5 Summary

In the current chapter, I have introduced the grammatical framework upon which the analysis of the CSB corpus is based. A variety of reasons was given as to why the verb complementation scheme developed by Quirk et al. (1985) is seen – in the context of the current study – as being superior to other attempts to systematise the features of English grammar. However, it was also shown that it is not very practical to adopt the Quirk et al.-system in its full complexity since it would then simply go beyond the categories actually found in (early) child language. Thus, in order to be able to do justice to the actual findings in language acquisition research, a certain number of modifications were made and described (e.g., the merging of various sub-categories for each complementation type). Furthermore, I mentioned several relevant concepts such as the differing terminology or some of the notions of construction grammar that are based upon investigations in language acquisition. In the following analyses of the CSB database, these will be taken up again and, where possible, incorporated into the given grammatical framework.

So, in Chapters 6-8, I will turn to the actual analysis of my corpus material. Chapter 6 will give a comprehensive description of the four major verb categories as defined in the current chapter – lexical verbs used intransitively, mono-, complex- and ditransitively. I will present quantitative results and interpret them in the context of several of the concepts and studies that were introduced in Chapter 2 as well as by coming back to some of the works mentioned in the current chapter (e.g., Biber et al. 1999; Hopper and Thompson 1980). In Chapters 7 and 8, the discussion will centre on specific lexical verbs (*get* and *have*) and constructional idiosyncrasies (passives and modals), respectively.

[81] It must be noted here that Quirk et al. (1985) only include very vague references to frequency effects; however, the Biber et al.'s 1999 grammar can be seen as "frequentially complementing" Quirk et al. (compare Leech 2004: 143ff).

6. Lexical verbs – patterns of usage in the CSB corpus

6.1 Introduction

Lexical verbs form an open word class and they constitute the largest, syntactically most complex and most diversified group among all verb types in English. As such they pose a particular challenge to the language learning child who will have to come to terms with all the subtle nuances, the flexibilities and constraints of the English verb system in the course of time. In Chapter 2, I described in great detail how the syntactic structures that children "find" in their language input are believed to guide them along the complex acquisitional path. I also pointed out the special role that verb constructions play in this process. In the present chapter, the focus will therefore be on the distribution of full lexical verbs within and across complementation patterns in the CSB corpus.

Based on their corpus analyses, Biber et al. (1999) make the following statement regarding lexical verbs in written language:

> The three written registers[82] rely less on the most common verbs. In part, this might reflect a wider range of subject matter or a wish to make the text more interesting through lexical variation (especially in fiction). Furthermore, writers have the luxury of time to draw on a wider range of lexical items, while the pressure of time leads speakers to rely heavily on the most common verbs (Biber et al. 1999: 374).

The question arises as to whether such differences in verb usage also exist between the language found in children's storybook texts (the "prefabricated" written register) and in, for example, maternal language input (the spontaneous spoken register). The current chapter will try to answer this question concentrating primarily on two aspects, namely: what kinds of verbs are frequently used in the text language and in what kind of construction do they most often occur? The answering of these questions requires detailed quantitative as well as qualitative analyses of the data. The procedure will be as follows: I will explore each of the four previously introduced complementation subgroups in turn. While the inner-subgroup discussion is paramount in each case, I will also adopt an inter-subgroup perspective from time to time, *i.e.* I will look at some lexical verbs with regard to their occurrence across complementation patterns.

[82] The three written registers in Biber et al. comprise "academic prose", "newspaper language" and "fiction" (1999: 24ff).

Comparisons with other input studies (see Chapter 2) will be included in the discussion/analyses.

Based on these investigations it will then be possible to first of all identify tendencies regarding the usage of lexical verbs in storybook texts and, secondly, to issue a statement concerning differences and similarities of verb and construction usage in spoken and written input language. I will also make tentative suggestions as to the possible impact on children's language acquisition of both differences and similarities in usage.

6.2 The four main verb complementation patterns

In the following I will go through each of the four main complementation patterns and analyse and interpret the occurrence of lexical verbs within them. Subsequent to the discussion of intransitive (6.2.1) and monotransitive (6.2.2) constructions found in the CSB there will be an extra subsection (6.2.3) in which the two constructions are contemplated together with regard to those verbs that might alternately be used in either one pattern. A further subsection (6.2.4) will then be devoted to "direct speech verbs". Once the complex-transitive (6.2.5) and the ditransitive (6.2.6) constructions have also been considered in detail, there will be a final section on the various factors that are believed to play a role in children's generalising of verb argument structures (6.3).

Before entering into the discussion of the individual usage types let us take a look at Table 6.1 which shows how the 5,293 lexical verbs that, in the CSB data, occur in either one of the four complementation patterns are distributed across them:[83]

Table 6.1: The distribution of lexical verbs according to complementation patters

	ITR	MTR	CTR	DTR
Number of occurrences	2,235	2,409	489	160

As can be seen, the distribution of lexical verbs with regard to the various complementation patterns is strongly biased: almost 90 percent of all verbs are used either intransitively or monotransitively. I will now turn to the first of these groups.

[83] Note that altogether there are 5,479 lexical verbs in the CSB corpus. The smaller figure given above accounts for the fact that a number of full lexical verbs is used in other constructions such as passive or cleft or *-ed* participle constructions.

6.2.1 Intransitives

Intransitive verbs or "one-place" verbs (Biber et al. 1999: 141) occur in the SV sentence type. With 2,235 instances altogether, *i.e.* including multi-word verbs, the intransitively used verbs as a group make up the second biggest share of all lexical verbs in the CSB corpus. Only monotransitively used verbs occur even more often. A list of the 20 most frequent intransitively used single-word verbs in the CSB corpus is given in Table 6.2:[84]

Table 6.2: The 20 most frequent single-word lexical verbs used intransitively (2,015 in total; 362 different verb types)

Lexical verb	Number of instances	Lexical verb	Number of instances
go	232	*walk*	26
come	192	*lie**	24
run	62	*fly*	23
look	53	*sleep*	23
live	43	*laugh*	23
sit	43	*stop*	22
fall	37	*play*	21
stand	36	*swim*	20
jump	35	*move*	19
cry	28	*help*	17

* All instances of the verb are forms of *to lie* in the sense of *to rest*; no instances of *to lie* in the sense of *tell an untruth* are found in the CSB data.

A first observation to be made on the basis of the data shown in Table 6.2 concerns the transitivity status of the verbs: out of these 20 verbs most of them occur only in the intransitive usage, *i.e.*, according to the distinction made by Quirk et al. (1985: 1169), these verbs are "pure" intransitive verbs. Those that are also used monotransitively are found at the end of the list here (*stop*, *play*, *swim*, *move*, *help*). This is not to say that the other verbs do not at all permit any other complementation pattern, but rather that they are only very rarely used in other syntactic constructions. Examples (1) to (5), taken from the BNC, demonstrate such exceptional uses for some of the verbs listed in Table 6.1:

(1) "He won't **stand a chance** if we can get him up there." (BPD 2131)

(2) I walk the dog up there several times a week. (ARJ 493)

(3) He didn't **sleep a wink** during the journey. (H7A 588)

(4) […] who meanwhile are **laughing their heads off**. (A69 500)

(5) She wasn't **crying her eyes out**. (AB9 1049)

[84] A complete list of all lexical one-word verbs used in the intransitive construction together with their frequencies of occurrence is provided in Appendix II, 1).

Clearly, most of these usages represent some kind of more or less fixed formulaic sequences (as indicated in boldface) which, however, remain unaccounted for in my analysis of the CSB corpus.

A second observation concerns the lexical verbs on top of the list in Table 6.2: with *go* (232 instances) and *come* (192 instances) as the most frequent verbs in the intransitive construction, this complementation subgroup contains the two single most common verbs overall in the CSB corpus.[85] According to Biber et al., the two verbs are most often found in the "conversation" and in the "fiction" register and both belong to the twelve most common lexical verbs overall in Biber et al.'s LSWE Corpus[86] (1999: 373-377). Semantically, both *go* and *come* express motion (or, more precisely, belong to the class of "Verbs of Inherently Directed Motion" – Levin 1993: 263). Syntactically, *go* and *come* as well as the other verbs given in Table 6.1 are usually found in the SVA or SV sentence types. Note however that, although *go* and *come* as well as *run* (the third most frequent verb in the intransitive construction) can take an adverbial and more often than not do so, the adverbial is not obligatory for reasons of completeness.[87]

The high frequency of occurrence of *go* in the CSB corpus is also in line with the results from Goldberg et al. who find that "*go* accounts for a full 39 percent of the uses of the VL construction in the speech of mothers addressing 28-month-old children in the Bates, Bretherton, and Snyder (1988) corpus" (2004: 297).[88] They evaluate two different factors to explain the high frequency rates of *go* in the input: on the one hand, the main use of the verb denotes one of the basic patterns of experience (someone/something moving somewhere) so that its meaning is readily accessible to the child; on the other hand, *go* is applicable to a wider range of arguments than, for instance, the verbs *amble* or *advance*[89] and is therefore usable in a wider range of

[85] Note that the verb *say* (664 instances) occurs far more frequent in the data, but remains excluded from the present examination of the four complementation patterns due to its special status of "direct speech verbs" in the analysis. See also 6.2.4 below.
[86] The abbreviation stands for the Longman Spoken and Written English Corpus upon which all findings in Biber et al. (1999) are based.
[87] Compare, for instance, *go*, *come* and *run* with *lie*: "He was lying in bed pretending to be an aeroplane." (CB 18). Without the adverbial *in bed* the proposition of this clause would be incomplete.
[88] The term "VL construction" is used here by the authors to refer to the intransitive motion construction of the type "(Subj) V $Obl_{path/loc}$" where "$Obl_{path/loc}$" stands for the adverbial expressing either the path along which the subject of the clause moves or the location it moves to.
[89] The following figures from the BNC may serve to illustrate this point: while *go* occurs with a frequency of 893,3 instances per million words, the frequencies of *amble* (1,71) and *advance* (29,5) are considerably lower.

contexts (ibid.: 298). However, as members of the group of "light" or semantically general verbs (e.g., Theakston et al. 2004), both *go* and *come* are often combined with one or more particle(s) (e.g., *go on about*, *go along with*, *go without*; *come along*, *come up with*, *come across sth./as*) so that their otherwise very general meaning gets specified and the actual meaning of movement is often lost. How readily accessible the meaning of these "verb + particle"-constructions still is to a child depends probably very much on the situational context and on the linguistic experience and knowledge a child already has.

As suggested by, for example, the following findings of two very different studies, the 20 verbs given in Table 6.2 seem to be frequent in child input language in general. The speech samples of 57 mothers serve as a basis for Naigles and Hoff-Ginsberg's (1998: 104f) analysis of the occurrence of 25 lexical verbs in maternal input language that vary in both their semantic and syntactic properties. Among them we find eight of the verbs shown in Table 6.2: *lie*, *run*, *jump*, *move*, *fall*, *look*, *sit*, *come* and *go*. Interestingly, the verb *go* also occurs with exceptionally high frequencies in Naigles and Hoff-Ginsberg's data; also relatively frequent are *come*, *look* and *sit*. A comparison of all 20 verbs listed in Table 6.2 with Israel's findings (quoted in Tomasello 2003: 152) reveals that altogether 16 of them are among the 50 most frequent verbs used in the English intransitive construction by children age 2;0-4;0 who, as it is argued in Tomasello (2003), acquire these verbs fairly early owing to their highly frequent occurrence in spoken linguistic input.[90] It can thus be assumed that the lexical verbs accounted for in the CSB corpus are not an exception but rather reflect general (written and spoken) language use and input, respectively.

Tomasello's discussion of intransitive verbs neither precisely includes phrasal and prepositional verbs, nor does it explicitly exclude them. However, Biber et al. state that intransitive phrasal verbs are extremely common in conversation and fiction because of their colloquial tone (1999: 409). Table 6.3 therefore lists the most frequent phrasal verbs found in the intransitive construction in the CSB corpus:[91]

[90] Exceptions are *run*, *live*, *stand* and *lie* – the latter used exclusively in the sense of 'lie down' or 'be situated'.

[91] A complete list of all lexical verbs used in combination with a particle in the intransitive construction together with their frequencies of occurrence is provided in Appendix II, 2).

Table 6.3: The most frequently used phrasal verbs among the intransitives (220 instances; 66 different verb types in combination with particles)

Phrasal verb	Number of instances
go off	12
come on	11
run away	11
set off	9
get up; *go on*; *look out*	8 (each)

Interestingly, as Table 6.3 shows, the very same verbs as in Table 6.2 (*go*, *come* and *run* + particles) occur as well on top of the list when it comes to phrasal verbs that are used intransitively in the CSB corpus. *Come on*, here second most common, is the most common phrasal verb in Biber et al.'s conversation data (1999: 411). *Go on* occurs only eight times in the CSB corpus but is the most common phrasal verb overall in the LSWE Corpus (ibid.). However, the figures of verbs marked as phrasal in the CSB corpus are too minuscule for the intransitive construction to make any comprehensive statement about their impact on input structure.

At this point, I would like to abandon the general discussion for a moment and direct my attention almost exclusively to the verb *go*, thus acknowledging the fact that *go* is the most common lexical verb in the intransitive construction as well as in the current corpus overall.[92] One study that particularly lends itself to this context is Theakston et al.'s (2002) detailed examination of the acquisition of the verb *go* on the basis of data from eleven English-speaking children collected over the period of one year (between the ages 2;0 and 3;0). The aims of the study are

> to examine to what extent (1) uses of different forms of *Go* are syntactically or semantically distinct, (2) children generalize knowledge of structures and meanings across different forms of *Go*, and (3) children's use of different forms of *Go* differs from their use in the input (Theakston et al. 2002: 788).

The authors distinguish ten different syntactic structures used with the verb *go* (e.g., *go* + adverb; *go* + PP; *go* + infinitive/gerund; usage in *yes-no* questions and *wh*-questions, etc.) and 19 different semantic senses encoded by the verb *go* (e.g., movement, disappearance, future intent, order of occurrence, encouragement, etc.) and analyse both the children's and their mothers' data accordingly. The following observations[93] are

[92] See footnote 2 above.

[93] Only the relevant results concerning syntactic structure will be presented here. For the findings regarding semantic development and further details on individual syntactic structures such as *wh*-questions see Theakston et al. (2002: 797-806).

made: firstly, English children tend to use different forms of the verb, e.g. *go*, *going* or *gone*, in particular syntactic structures; so, for example, 3rd-person-singular *goes* is the most frequent form in adverb structures while the simple past form *went* is used most frequently in the PP-construction. Secondly, considerable time lapses between the use of one form in one syntactic pattern and the onset of using another form in the very same pattern were accounted for. Furthermore, a look at the mothers' data revealed that the order of acquisition of the individual forms of *go* in different syntactic structures for each child is reflected in the input he or she gets, *i.e.* in the relative input frequencies of "verb form used in construction". Theakston et al., in their discussion of the results, note that "taken as a whole [the data] suggest that children's early use of different forms of *Go* is lexically-specific, and that the acquisition of the different structures and meanings associated with *Go* occurs gradually and at different rates with different forms of *Go*" (2002: 807). That is to say that children do not yet possess a unified representation of the verb *go* in the way adult language users do. Based on their findings the authors conclude that at this age children do not yet seem to have generalised across the individually learned verb forms and their most frequent syntactic patterns. That *go* is nevertheless used by quite young children (28-month-old) in a number of syntactic environments is shown by Sethuraman and Goodman (2004a: 85).

A quick comparison with the CSB data indicates the following distribution of the three most frequently occurring lexical verbs across the three most frequent construction types:[94]

Table 6.4: The use of *go*, *come* and *run* across construction types

	verb + adverb	verb + inf. / gerund	verb + PP	total number of instances
go	63 (27%)	19 (8%)	85 (37%)	232
come	66 (34%)	29 (15%)	65 (34%)	192
run	17 (27%)	5 (8 %)	26 (42%)	62

As can be seen in Table 6.4, a similar pattern for *go* and *run* emerges: both verbs occur most often in the "verb + prepositional phrase"-structure and the least often in the "verb + infinite/gerund"-combination. The third verb, *come*, is also found least frequently in the latter; however, different from *go* and *run*, the average number of occurrence in the

[94] The remaining instances of *go*, *come* and *run* are used in other syntactic patterns such as two-verb-clauses (excluding infinitives) or *wh*-questions but are relatively few in number of instances and therefore not included in Table 6.4.

remaining two constructions is equal for *come*, that is to say that *come* is as often combined with an adverb as with a prepositional phrase while in the case of *go* and *run* there seems to be a preference for the prepositional phrase construction. To my knowledge, unfortunately no study exists so far that analyses children's usage of different verbs of movement according to construction types and could now be used for comparison. One reason for the non-existence of such an investigation might be seen in the fact that, in a network of syntactic structures as imagined by Goldberg (1995), the two constructions ("verb + adverb"; "verb + prepositional phrase") would probably be portrayed as being closely related. They might thus not pose a significant acquisitional challenge to the language learning child, especially as there are virtually no constraints as far as the usage of *go*, *come*, *run* and related verbs of movement across the three constructions is concerned.

Bearing in mind Theakston et al.'s (2002) findings, I proceeded by turning my attention to the investigation of the interplay of verb forms and construction types with regard to *go*.[95] However, my analysis of the storybook text data shows no clear-cut picture such as the one found by Theakston et al. The use of the two most frequent forms of *go*, namely the infinitive form *go* (56 instances) and the past tense form *went* (68 instances), is almost equally spread across the "verb + adverb"-combination (*go*: 29 instances; *went*: 39 instances) and the "verb + prepositional phrase"-construction (*go*: 27 instances; *went*: 29 instances). Hence, contrary to Theakston et al.'s analysis of maternal input data, no particular usage patterns of the lemma *go* and its various word forms emerge from the study of the text language sample and it is therefore impossible to identify any explicit impact that regular reading of storybooks might have on children's developing representation of the verb *go*.

The intermediate results of the analysis of intransitively used verbs in the CSB corpus can be summarised as follows: the 20 most frequent lexical verbs used in this complementation pattern are on the whole (very) common in general language usage[96],

[95] Note that only those instances of *go* that are marked as "full lexical verb" are considered here; not taken into account is the usage of *go* (and *go on*) as a catenative verb or as a copular. Overall, each of these alternative *go*-constructions occurs ten times in the CSB corpus.

[96] The BNC data was taken as the basis for comparison here. As the figures thus retrieved reflect overall frequencies, *i.e.* there is no differentiation according to transitivity degrees of the verbs, they are only good for a very vague and restricted comparison. All 20 verbs occur in the BNC, the frequencies per million words are highest for *go* (2,326) and *come* (1,486) and lowest for words such as *swim*, *jump* and

occur early in child language and in the majority of cases can be characterised as "pure" intransitive verbs. *Go* and *come* were recognised as the most common verbs in the intransitive construction; in comparison to the remaining 18 verbs their overall share of the intransitively used verbs in the CSB corpus is relatively high: *go* constitutes slightly more than ten percent and *come* eight percent whereas the proportion of the other verbs listed in Table 6.2 is in each case under three percent. Both *go* and *come* are very productive and feature in a spate of verbal multi-word combinations. A more detailed analysis of *go* regarding the interaction between forms and construction types did not confirm Theakston et al.'s findings; instead, the two most frequent forms as well as the less commonly used forms all occur nearly equally often in at least two constructions, namely the "verb + prepositional phrase" and the "verb + adverb" construction. Of all possible combinations, these two are the most frequently employed constructions overall with regard to intransitively used verbs in the CSB corpus. Note also that the discussion of intransitively used verbs will be further pursued in the context of the following sub-section on lexical verbs used in monotransitive complementation patterns.

6.2.2 Monotransitives

The most frequent verb complementation pattern found in the CSB corpus is that of monotransitively used lexical verbs. Out of 5,479 full lexical verbs, 2,409 instances (single- and multi-word verbs taken together) are complemented with a direct object either in form of a simple noun phrase or of a finite/infinite clause. Table 6.5 shows those single-word lexical verbs that are used most frequently in the monotransitive complementation pattern.[97]

cry (all under 100 instances per million words). The comparatively high frequencies of these verbs in the CSB corpus may be attributable to the themes of children's storybooks and the worlds/events they relate.

[97] A complete list of all lexical one-word verbs used in the monotransitive construction together with their frequencies of occurrence is provided in Appendix II, 3).

Table 6.5: The 20 most frequently used one-word monotransitive verbs in the CBS corpus (2,005 in total; 326 different verb types)

Lexical verb	Number of instances	Lexical verb	Number of instances
have (incl. *have got*)	156 (167)	*say*	42
see	110	*begin*	41
think	79	*take*	34
find	72	*need*	34
want	65	*wear*	31
do	60	*start*	28
like	57	*wash*	27
eat	55	*hear*	27
make	49	*try*	26
know	48	*open*	23

Before entering into a discussion of the types of lexical verbs listed in Table 6.5, two comments are necessary. Firstly, the instances of *have*/*have got* included in Table 6.5 are exclusively occurrences in which *have* clearly functions as a full lexical verb. All other functions of *have* are discussed in detail in Chapter 7.4. Secondly, the instances of *say* included in Table 6.5 represent solely occurrences in which the verb is unquestionably used as a monotransitive full lexical verb. Note that there are another 664 instances of the verb *say* in the CSB corpus. These, however, occur in reporting clauses and thus fall in the special category I labelled "direct speech" (compare Chapter 4.4 and 6.2.4 below). The difference is shown in the following text element:

(6) "Don't you **say**[SAY-FV-MTR(NP)] anything, Sophie!" I **said** [DS]. (CB 42)

The first *say* is complemented with the direct object *anything* while the second form of *say* is the main verb of the reporting clause and as such is placed somewhere in the middle of the gradient that describes the independence-integration scale of direct speech clauses.

This said, a look at Table 6.5 reveals a picture not unlike the one found for intransitive complementation in Table 6.2 above: again, there are two lexical verbs – *have*/*have got* and *see* – whose frequencies of occurrence in the CSB corpus position them by far on top of the list, although in the current case the gap between these two candidates and the remaining verbs is not quite as wide. In its realisation as a transitive verb, *have*/*have got* occurs 167 times across all texts. Leaving aside the verb *say* momentarily, it is thus the third most common lexical verb (after intransitive *go* and *come*) in the CSB data. With 110 instances *see* qualifies for the fourth most common full verb overall. Both verbs as well as most of the others are also very frequent in

spoken language (source: "Spoken Texts" in the BNC) so that it can be assumed that young children are familiar with the most common monotransitively used verbs listed in Table 6.5. Support for this assumption also comes from Naigles and Hoff-Ginsberg (1998: 104) in whose listing of 25 verb types which occur in both semantic and syntactic variations in their maternal speech data nine of the verbs given in Table 6.5 show up. *Want* is the most frequent of them, followed by *see*, *think*, *take*, *like* and *know*.[98] None of these verbs poses any particular difficulty structurally or breaks ranks when used monotransitively. Moreover, the fact that the majority of these verbs are found in early child language output (compare Tomasello 2003: 150) also suggests that they are fairly common in children's spoken language input. It can thus be assumed that input based on storybook reading does not greatly differ from spoken language input with regard to the most common lexical verbs used in the monotransitive construction; however, regular reading sessions might still have a positive influence. Three kinds of effects are imaginable: already existing linguistic representations for lexical verbs may be strengthened as may be the understanding of the constructional pattern and its meaning(s). That is to say that entrenchment and preempting processes might be at work in such cases, the former a process by which more stable constructional representations are established through the exposure to many exemplars of similar utterances, the latter a process which tends to "block" the usage of verbs in other linguistic patterns once children have learned to use them in a particular construction (Brooks et al. 1999). In addition, further usage patterns may be added for already acquired verbs, e.g., if children already know a verb in its intransitive function and repeatedly encounter instances of monotransitive use of the same verb in the text language, or vice versa, they could extend their knowledge about individual verbs or even generalise across the individually acquired representations of such verbs due to frequent exposure to "mixed" instances. A look at Table 6.5 confirms that most of the listed verbs can also occur in other syntactic structures (compare also 6.2.3 below). Last but not least, new usage patterns together with so far unknown lexical verbs may become part of a child's developing linguistic repertoire.

The frequent appearance of the monotransitive construction in the data can be explained by the relatively open meaning expressed by it. While a scene with two

[98] Note that Naigles and Hoff-Ginsberg, probably due to their research aim, do not include the verb *have* in their analysis.

participants in which one somehow acts on the other (example 7 below) may be the most prototypical one, there are dozens of other scenes conveyed by the construction that greatly differ from one another (Tomasello 2003: 149). (8) to (10) give some examples:

(7) "Marmaduke **hit** me on the head," said Grandpa. (CB 50)

(8) Bartholomew **dropped** the little black kitten. (CB 35)

(9) The animals who live in the park all **know** Percy's hut. (CB 36)

(10) "Big rabbits **need** really big ice creams," he said. (CB 51)

Whereas in (7) there clearly is an agent (*Marmaduke*) acting (*hit*) upon an object (*me*), the scenes depicted by the likewise monotransitively used lexical verbs in (8) – (10) express different concepts: the verb *drop* in (8) indicates movement, (9) is an example of a "psychological activity" and in (10) the concept of "having objects" is illustrated.[99] Semantically, the most frequent lexical verbs displayed in Table 6.5 thus form a heterogeneous group. Based on the classification found in Biber et al. (1999: 360-364)[100], they belong to the four different semantic domains of "activity verbs" (e.g., *do*, *make*, *try*), "communication verbs" (only *say*), "mental verbs" (e.g., *see*, *think*, *want*) and "aspectual verbs" (*start* and *begin*). Sethuraman and Goodman also develop a semantically-based framework when analysing the most frequent monotransitively used verbs (children's and mothers') in the Bates corpus (Bates et al. 1988) and claim, based on their findings, that the "transitive pattern seems to include several meaning categories each loosely associated with one or two frequent verbs" (2004b: 66). So, for instance, *do* accounts for 55 percent of both the maternal and the children's utterances when expressing "acting on objects" and *have* accounts for 40 percent of the maternal utterances that serve to express "having objects" and for 23 percent of the children's utterances (ibid.: 63). The verb *have*/*have got* is a particular case in that it can be used to express very many different meanings, e.g., to mark physical possession or family connections or to link someone/something to an abstract quality (compare Biber et al. 1999: 429f). In addition, it occurs frequently in a number of relatively idiomatic expressions, e.g., *have a baby*, *have breakfast* and *have an idea* etc. many of which are

[99] The categories "having objects", "moving or transforming objects", "acting on objects" and "psychological activities" are based on Tomasello (2003: 150; Table 5.2).

[100] Biber et al. classify lexical verbs into seven major semantic groups. Since many verbs have multiple meanings from different semantic domains, all verbs are categorised according to their most typical use. See Biber et al. (1999: 360-364) for a detailed description.

also found in the CSB corpus. *Have*/*have got* therefore unites several characteristics of light or semantically general verbs which will be elaborated on in section 6.3 below.

Among the monotransitively complemented verbs we also find a largest share of multi-word verbs in any one complementation pattern. Tables 6.6 and 6.7 list the most frequent phrasal and prepositional verbs that occur in the monotransitive construction.[101] The overall frequencies here are again relatively low so that only the first five verbs are given. Note that phrasal-prepositional verbs are not considered separately in the ongoing analysis as there are only 18 instances (seven different lexical verb types) of such verbs in the CSB corpus.[102]

Table 6.6: The most frequent phrasal verbs in the monotransitive group (164 instances; 70 different verb types in combination with particles)

Phrasal verb	Number of instances
put on	12
pick up	10
eat up	8
hang up	6
try on	5

Table 6.7: The most frequent prepositional verbs in the monotransitive group (222 instances; 56 different verb types in combination with prepositions)

Prepositional verb	Number of instances
look at	45
look for	23
play with	11
look after; *think of*	7
think about; *point at*; *stare at*; *talk to*	6

With respect to Table 6.6 it can be stated that with *up* and *on*, respectively, all five verbs contain one of the most frequent particles accounted for phrasal verb constructions in the CSB corpus as well as in general in the English language. Biber et al. (1999: 412f), for example, name *up* and *on* (and also *out*) as particularly productive adverbial particles which combine with a range of common lexical verbs. It therefore comes as no surprise that the same three particles are also the most productive ones in the current data (instances of occurrence in transitive phrasal verb constructions: *up* (79), *out* (28) and *on* (20). Since children along the acquisitional path often start off with producing

[101] A complete list of all lexical verbs used in combination with a particle or preposition in the monotransitive construction together with their frequencies of occurrence is provided in Appendix II, 4) and 5), respectively.

[102] However, Appendix II, 6) lists those lexical verbs and their frequencies of occurrence that appear in combination with both a particle and a preposition as monotransitively used phrasal-prepositional verbs.

the particle alone, e.g., they might just repeatedly say *up, up!* whenever they want to be picked up by a parent (Tomasello 2003: 153), it stands to reason that they first learn these function words in isolation and only at a later stage "add" the verbal part of the construction to this simplified pattern. Once such a process of combining lexical verb and particle has begun, it might be easy enough for the child to produce these constructions considering that the particularly productive particles as well as the particularly productive lexical verbs (mostly very common "light" verbs; see subsection 6.3 below) have already been acquired individually. The phrasal verbs shown in Table 6.6 are thus representative of a whole range of fairly flexible "lexical verb + particle"-constructions that are built around a number of common and productive exemplars of the two lexical categories. With *put on* and *pick up* two typical representatives of phrasal verbs rank first (compare Biber et al. 1999: 410; Table 5.14). Since multi-word verbs occur frequently in spoken language and fiction (Biber et al. 1999: 409), the reading of storybook texts can certainly be said to provide children with additional/a good number of examples with regard to these verbal constructions.

Table 6.7 lists nine frequently occurring prepositional verbs. The verb *look at* is by far most often accounted for. This result is in accordance with Biber et al.'s findings who state that "*look at*, with its extreme frequency in conversation and fiction, is the single most common prepositional verb altogether" in their four corpora (1999: 416). Together with *look for* and *look after* the CSB data contains 75 instances of *look* used as a monotransitive prepositional verb. Without doubt, the text language can be argued to fulfil a complementing function here in that it provides a range of examples of monotransitive "*look* + preposition + prepositional object" whereas in spoken language input the imperative use of simple *Look!* together with monotransitive *look at* might conceivably be dominating. More generally, it can be said that the texts contain a wide range of prepositional verbs that draw on a number of prepositions (15 different prepositions are found as opposed to nine different particles in phrasal verb constructions) and comprise a diverse set of semantic domains (activity verbs, mental verbs, communication verbs, etc.). To what extent young children memorise prepositional verbs as more or less fixed units of language remains as yet an open question as there are virtually no studies on the acquisition of phrasal and/or prepositional verbs. However, following the lines of argumentation regarding the

storage and use of formulaic sequences both in adult and child language suggests that the verbs in question, especially when occurring frequently in relatively fixed combinations in different types of linguistic input, are indeed learned and represented as units. Furthermore, what has already been said with regard to the occurrence of phrasal verbs in the corpus data can surely be repeated here: most of the prepositional verbs might simply serve as further examples of an already rudimentary acquired special verbal category in English. Since the boundaries between prepositional and freely combined multi-word verbs are blurred in many a case (compare Chapter 5.4), it will take some time for this category to take shape in the developing network of linguistic representations. But even once the adult state is reached phrasal and prepositional verb constructions might at best be seen as a somewhat "floating" or loosely connected element within the network of constructions described by Goldberg (1995, 2006).

Irrespective of the verb type, monotransitive complementation is strongly tied to the SVO sentence type syntactically. Nevertheless, there is considerable structural variation in that the direct object position can be filled by various, more or less complex syntactic elements. As pointed out before, however, the current study restricts itself to the distinction between noun phrases, on the one hand, and different clause types on the other hand. The distribution of all full lexical verbs across these two complementation patterns is as follows:

Table 6.8: Monotransitively used lexical verbs according to complementation patterns

	NP				CL			
number of instances	**FV**	**FVph**	**FVpr**	**FVphpr**	**FV**	**FVph**	**FVpr**	**FVphpr**
	1,529	162	215	18	476	2	7	--
total	1,924				485			

Evidently, the direct object position is far more often filled with a noun phrase than with any kind of clause. Among the clauses that function as direct objects in this complementation pattern the infinitival type occurs in 202 instances, followed by *that*-clauses where more often than not *that* is actually omitted (179 instances). *Wh*-clauses (67 instances) and *-ing* clauses (24 instances) are considerably less frequent. Note however that there is not only variation among clauses, but also with regard to the noun phrases which take up the position of the direct object in a monotransitive sentence or utterance. They may also vary in size and complexity as the following examples show:

(11) Eddie **liked** the witches and the witches **liked** Eddie. (CB 40)

(12) "[…] I **like** scary things!" (CB 50)

(13) Just then the puppy opened his eyes and **licked** Alfie's hand. (CB 24)

(14) Jessica had **painted** a picture of a butterfly… (CB 50)

(15) And the captain would **rescue** him. (CB 26)

(16) By some rough and rugged rocks, what did he **see**? (CB 68)

In (11), the first noun phrase is made up by a definite article and a noun (*the witches*) and is thus slightly more complex than the second which simply consists of a name (*Eddie*). (12) – (14) show examples of other more complex structures, namely an NP consisting of an adjective plus noun (*scary things*), an NP including a genitive phrase (*Alfie's hand*) and a noun phrase including a prepositional phrase (*a picture of a butterfly*). In (15), the personal pronoun *him* is placed in the object position. In (16), the direct object (*what*) gets moved to the front due to the interrogative structure of the clause. None of these noun phrase elements or different clause types in object position will cause the adult language user any problems. For young language learners, however, each case constitutes a slightly new structure and will thus be a challenge to their currently held linguistic representation of the monotransitive construction. A lot depends on the shape/the status of this representation, that is to say on whether a child has already developed a vaguely abstract representation of the construction that allows for different choices to fill the open object slot in the constructional pattern or still operates with individual, more or less item-based constructions with little variation in the object slot.

Depending on the interaction of various kinds of learning mechanisms and the already acquired structures, further difficulties could arise – at one point or another along the longitudinal acquisitional path – from phrasal, prepositional or phrasal-prepositional verbs since these multi-word sequences are yet again slightly different in their structures and also to some extent variable in their positioning of the particle. Additionally, the whole range of more or less dissimilar complementing elements outlined above is also applicable to these constructions. Thus, what may look like no particular challenge to the adult native language user becomes a constructional "hodgepodge" when seen from the linguistically in- or little experienced child's angle.

Apart from inner structural variation regarding the realisation of the direct object many of the monotransitively used verbs (in Table 6.5 above and in the CSB corpus in

general) also allow for variation on the argument structure level: they are so-called "mixed" verbs and as such may be used intransitively or monotransitively, sometimes with, sometimes without a notable change in meaning.[103] Within the realm of language acquisition the alternation between intransitively and monotransitively used lexical verbs and children's understanding thereof has experienced outstanding attention across the various different theoretical approaches. In the following subsection I will therefore look in more detail at this phenomenon and subsequently discuss the CSB data against the background of the ongoing debate.

6.2.3 Verb alternation between the intransitive and monotransitive construction

Many English verbs alternate between intransitive and monotransitive usage (e.g., *break*, *roll*) whereas others are characterised by a fixed transitive (e.g., *hit*) or intransitive (e.g., *fall*) status. The acquisition of the potentiality to swap lexical verbs between the intransitive and the transitive construction has attracted a great deal of attention among researchers. For constructivists it represents an important developmental milestone. They argue that children's alternating use of the same lexical verb in both constructions shows that they have reached a certain level of generalisation of verb representation. Furthermore, children's awareness of the constraints of alternation indicates the understanding of an abstract construction and its meaning. In other words, being able to transfer verbs learned in one construction to the other construction in question demonstrates children's growing verb-independent, abstract knowledge of constructions and their meaning.

So at some point along the interminable language acquisition trail English-speaking children must and do fully recognise both the flexibility and the constraints of the system but a number of diary and experimental studies have led to the conclusion (e.g., Abbot-Smith et al. 2004; Childers and Tomasello 2001; Tomasello 1992) that it takes them well into their fourth year of life to at least roughly master the complex verbal constructional network. Thus, from a usage-based, constructivist perspective on language acquisition children's developing control of accurate verb complementation

[103] Note that some of the lexical verbs in question can also appear in one of the other constructions (*i.e.* be used complex- or ditransitively). However, in the relevant literature on child language acquisition the term "mixed verbs" seems to have become reserved for the alternation of lexical verbs between intransitive and monotransitive construction patterns and is therefore exclusively applied to this phenomenon in the current work.

patterns in all cases is best viewed as a lengthy process and less as a sudden breakthrough on the child's side. Their ability to generalise the intransitive/transitive construction to new verbs has been found to increase only gradually between 3;0 and 4;0 years of age. The general tenor is that up until age 3;0 children's "transitive and intransitive constructions appear to be restricted to item-based schemas that are primarily lexically specific and draw heavily on dominant patterns in adult speech to children" and that "between the ages of 2 and 3 years, children make only quite limited generalizations" (Budwig et al. 2006: 164). Approximately around their fourth birthday English-speaking children tend to do well when tested for their ability to readily form generalisations over a number of attested instances (Goldberg 2006: 62).

It must be noted here that there is some disagreement regarding the age of onset of children's generalising across verb-centred instances among those who adopt a usage-based, constructivist approach. It has recently been suggested by some scholars that argument structure generalisations indeed emerge gradually, but do so from early on (e.g., Abbot-Smith et al. 2004; Akhtar 1997; McClure et al. 2006; Ninio 1999, 2005; Sethuraman and Goodman 2004a, b). Focusing on the acquisition of constructions in Hindi, a language rich in verb morphology, Budwig et al. (2006), for example, also examine children's use of intransitive and transitive verb frames. Since in Hindi the change in syntactic verb-argument structure with the same verb is marked by changes in verb morphology, children acquiring Hindi can attend to morphological distinctions and might find it easier to grasp the connection between intransitive and transitive complementation patterns. The authors observe that Hindi-speaking children "were able from the start to show they could go beyond item-based patterns of verb usage" but are careful to conclude from this that children adopt adult-like solutions straightaway (Budwig et al. 2006: 180). Instead, Budwig et al. argue that children make use of a variety of interim solutions on their way towards adult language use. Interim solutions are defined as "an intermediate phase between local item-based productions largely dependent on input and a later phase of linking verbs to more abstract meaning units associated with transitive and intransitive frames" (ibid.: 166). Overall, Budwig et al.'s study claims that if language acquisition studies acknowledged such interim solutions more widely and if more cross-linguistic approaches to studying the acquisition of constructions were considered, the currently established beliefs regarding the onset of

children's ability to generalise beyond individually learned units of language might change in favour of an earlier point in language development (2006: 180f). While the current study with its focus on a different source of input language also takes English as its object of investigation, it does not doubt the fact that constructivist approaches to language acquisition will generally benefit from more cross-linguistically performed studies.

Leaving aside for now the question of interim solutions it is clear that at some point generalisations across individual instances must and do occur. Several factors are considered to play a role at different stages of development, among them such things as "frequency of exposure, of implicit or explicit correction and [the] amount of practice by the learner" (Clark and Kelly 2006: 6), "the diversity of syntactic environments in which the verbs [appear]" (Naigles and Hoff-Ginsberg 1998: 95) as well as more language-specific things such as the role of "animacy" (e.g., an animate *versus* an inanimate actor in subject position with the transitive frame; Dodson and Tomasello 1998: 619), of pronouns (in subject and often also in object position; ibid.) or of semantic similarity between lexical items used in constructions (Ninio 2005) – all of them understood as important and facilitating factors in the transition from verb-specific to more verb-general constructions.[104] At some intermediate stage of this transition many English-speaking children go through a period of "overgeneralisations" in which they create phrases such as *I disappeared him* or *I took* (e.g., Goldberg 2006: 60). Such argument structure overgeneralisations are believed to occur once children move beyond the item-based stage and begin to operate on a more abstract, more general constructional level. It is then that they wrongly transfer what knowledge of the use of constructions they have already deduced from their input to linguistic entities that, in adult grammar, do not qualify as members of the category in question. Hence Tomasello and Brooks' (1998: 392) observation: "Once children begin to build up abstract, verb-general constructions, the problem of constraining them arises." This is where preemption (or negative evidence) comes in (see above; compare Chapter 2). Thus, once again the structures found in input language seem to be important. I will therefore proceed by taking another look at both complementation patterns – intransitive and monotransitive – and the distribution of lexical verbs across the two patterns.

[104] See Sethuraman and Goodman (2004a) for a detailed discussion of the interrelation of these various factors.

With regard to the most frequently used intransitive verbs (Table 6.2) it has already been pointed out that most of them are more or less "pure" intransitives. Consequently, these verbs do usually not occur in profoundly diversified syntactic frames. And yet there is an (preempting) impact on learning: "as a child repeatedly hears a verb used in a particular argument construction, the child will come to assume that the verb does not occur in other verb argument constructions" (Brooks and Zizak 2002: 761). In contrast, more than half of the monotransitively used verbs given in Table 6.4 are not only more flexible in the elements they permit to fill the direct object position, but also may just as well be used in an intransitive frame. But when re-analysing the group of monotransitively complemented verbs I found that only *think* (13 instances), *eat* (12), *say* (15) and *start* (15) occur ten or more times in the intransitive pattern. Even if one goes beyond the 20 most common verbs in each group for a moment, *i.e.* if all verbs that occur more than ten times in each complementation pattern in at least three different texts are considered, matters do not actually change very much: out of 17 lexical verbs that are used monotransitively between ten and twenty times in the corpus, only the verbs *stop* (14 instances) and *play* (17 instances) also occur frequently, *i.e.* more than ten times, in the intransitive construction (22 and 21 instances, respectively).[105] Most of the other monotransitively used verbs are found only sporadically in the intransitive construction in the CSB corpus. Since none of the comparative studies explicitly says anything about the status of multi-word verbs in the relevant data, *i.e.* whether or not they were observed separately, it seems safe to take them into account as well at this point. However, after careful consideration of all those lexical verbs that are linked with a particle, a preposition or both and fall into the group of monotransitively complemented verbs, only the additional verb *look* turns out to be used frequently in both complementation patterns: there are 67 instances of intransitive use (53 instances of the one-word verb and 14 of a multi-word verb, FVph) as opposed to 80 instances of monotransitive use (74 FVpr and 6 FVphpr). All the other verbs that occur frequently, *i.e.* more than ten times in more than three texts, in multi-word compositions either intensify the already attested effect (e.g., the verb *think* occurs 79 times as a one-word verb and an additional 14 times as a monotransitively used multi-

[105] The minimum number of ten occurrences has been settled upon in the current context in order to establish a basis for analysis; due to its rather low value it cannot lead to representative results, but rather just serves to describe the impression gained based on the data at hand.

word verb) or are further frequently used verbs not accounted for before (e.g., the verb *put* which occurs 24 times in form of a phrasal verb). The effects of consistent and repeated reading on a child's acquisition of verbs that theoretically can alternate between the intransitive and the monotransitive construction thus seem to be very restricted in this respect and once again primarily have more of a strengthening function with regard to a child's developing system of linguistic representations in that the constructions found in text language are similar to those accounted for in spoken input language. Moreover, nearly all the instances of both intransitively and monotransitively used verbs located in the CSB corpus are used conventionally, *i.e.* in the expected (based on experience) constructions. Were there more unconventional instances of particular lexical verbs such as, for instance, the use of the verb *disappear* in a periphrastic causal construction (*I make it disappear*), another kind of preempting effects could be achieved: the repeated occurrence of a verb in a periphrastic causal construction (instead of the simple monotransitive construction) could preempt children's usage of such verbs in the simple transitive construction (Brooks and Zizak 2002: 761f; Goldberg 1995: 30ff, 118-119).

If we similarly extend the group of intransitively used verbs in the CSB corpus, we first of all find 19 verbs (on top of the ones shown in Table 6.2) which occur more than ten times in at least three different texts. But none of these – except for the two verbs already mentioned before, *start* and *think* – turn up more than ten times in the monotransitive construction and only another ten out of the 361 different verbs that make up the intransitive complementation group occur at all (between two and eight times) in a monotransitive pattern. Secondly, the inclusion of intransitively used phrasal verbs in all cases but one (the verb *set* occurs eleven times in form of a phrasal verb but does not occur at all as a single-word verb) only reveals that frequently used multi-word verbs closely correspond with their single-word counterparts (compare Table 6.2 above): once again, *go*, *come* and *run* are found most often in phrasal verb compositions used in the intransitive construction and *look*, *sit* and *fly* also occur frequently.

It must therefore be concluded that most of the lexical verbs that occur in the CSB corpus in frequencies worthy of mention tend to be used predominantly either in- or monotransitively; the language input based on the regular reading of storybooks thus seems equally biased towards one or the other complementation pattern as maternal

spoken input has been repeatedly shown to be (e.g., Cameron-Faulkner et al. 2003; DeVilliers 1985; Mintz 2003; Naigles and Hoff-Ginsberg 1998). Since the verbs that were found to show up frequently in either one construction are more or less congruent with those presented as highly frequent instances in spoken input as well as early candidates in child language production, the impact of text language on the acquisitional process with regard to the usage of the intransitive and the monotransitive construction and the verbs used in these two constructions is evidently restricted to the strengthening of preempting effects.

6.2.4 "Direct speech" verbs

Before I move on to discussing the next complementation pattern with regard to my data, I will briefly comment on "direct speech" verbs. As already explained (see Chapter 4.2.3 and also 6.2.2. above), I created a separate category for all those verbs that introduce a direct speech clause and function as main verbs in reporting clauses because it would otherwise be difficult to assign an indisputable place to them in the current systematic analysis. The difficulties are based on the grammatical status of the direct speech clause (Quirk et al. 1985: 1022-1024). Since the structural relationship between the reporting clause (superordinate main clause *versus* subordinate adverbial clause) and the direct speech clause (direct object *versus* superordinate main clause) is not at all clear, Quirk et al. suggest that "it is best to recognize that there is a gradient from direct speech that is clearly independent to direct speech that is clearly integrated into the clause structure" (ibid.). Further difficulties concerning the current study arise from the fact that we do not really know how children interpret the reporting clauses they hear when they listen to storybook texts. It may be conceivable that children must have developed at least a rudimentary "theory of mind" in order to be able to make sense of reporting phrases. I therefore decided to separate those verbs that are used to report the language of others from those full lexical verbs that could be categorised according to the four complementation patterns.

Proceeding accordingly, I marked 948 lexical verbs in the CSB corpus as "direct speech" verbs. Figure 6.1 shows the five most frequently used verbs out of 61 different ones that occur in a construction of reporting speech across the 73 texts.[106]

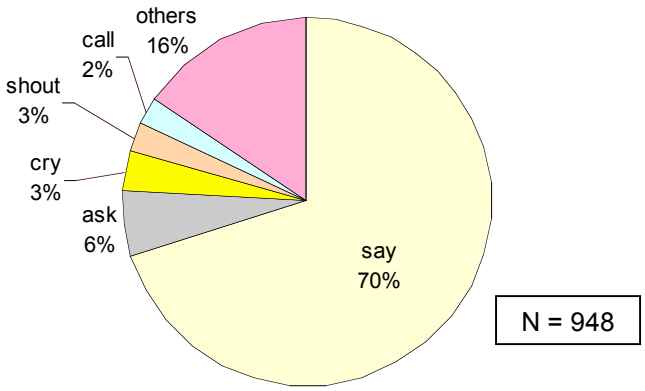

Figure 6.1: The distribution "direct speech" verbs in the CSB data

As can be seen, with 664 instances (or 70 percent) the verb *say* is the single most frequent verb in this category. Like *say*, *ask* (56 instances), *call* (23), *cry* (32) and *shout* (25) are also straightforward examples of verbs of communication. *Call*, *cry* and *shout* all describe the manner of speaking, *i.e.* "they are distinguished from each other by the manner in which the sound is expressed" (Levin 1993: 205f). They may be used either communicatively or non-communicatively. In (17), a non-communicative usage of *call*, the only verb that actually occurs in this context in the data, is demonstrated:

(17) The lifeguard **called** Edward's mum and dad. (CB 34)

In this example, *call* is used monotransitively. A number of other direct speech verbs from the CSB corpus fall into the group of verbs of manner of speaking, for example *bawl*, *bellow*, *howl*, *murmur*, *shriek* or *whisper*, but of them occur rather infrequently. *Ask* belongs to the group of "verbs of transfer of a message", a group whose members "differ with respect to the nature of the message and the way it is communicated" (Levin 1993: 203). The verb can take sentential complements and may also occur in the ditransitive and the monotransitive construction. (18) is an example of the latter usage:

(18) But the rabbits still live in peace and harmony with grass, coming out of their burrows at morning and evening, to trim its hair, while underground the grass

[106] A full list of lexical verbs that are used as so-called "direct speech" verbs in the CSB corpus is provided in Appendix II, 13). Frequencies of occurrence are also given.

> roots continue to discuss important matters, and sometimes people **ask** their opinions. (CB 57)

"Say verbs", described by Gropen et al. as "verbs of communication of propositions and propositional attitudes" (1989: 244), sometimes take finite and infinite (e.g., a *to*-phrase) sentential complements and "allow a very limited range of noun phrases as objects" (Levin 1993: 210; compare 6.2.2). Clearly, though, all five verbs are more regularly used as verbs of communication. However, there are other examples among the verbs that are used as direct speech verbs in the CSB corpus that might be less well-defined types of communicative verbs. Although frequencies of occurrence of such examples are very low in number, (19) to (22) show how *continue*, *go*, *laugh* and *yawn* are used accordingly in the data:

(19) "Smart," said Binks gravely. "And very big and grand and clever," **continued** Mimsey. (CB 55)

(20) He was lying in bed pretending to be an aeroplane. "NYAAOW!" **went** Baby Bear, "NYAAOW, NYAAOW!" (CB 18)

(21) "You'll have to get him a set of stilts," **laughed** Bernhard's friends. (CB 13)

(22) "Not VERY well, dear," **yawned** Mister Bear. (CB 18)

Independent from the type of direct speech verb that occurs in the written text, it is probably entirely up to the reader to communicate these textual sections of direct speech to a child. From all that has been said so far, it is obvious that experimental studies are needed to explore how young children perceive direct speech verbs and in what way and to what extent their occurrence in storybook input might affect children's developing linguistic representations of verbs. Without them, the current work could do no more at the moment but speculate about the impact of experiencing direct speech verbs on child language acquisition. I will therefore settle for this brief theoretical description and move on to the analysis of the remaining two complementation patterns.

6.2.5 Complex-transitives

Of all the verbal constructions referred to in this study, the complex-transitive construction and its realisations are presumably most problematic to account for – partly because there are more controversial instances in this than in any other

complementation group[107], partly because there are hardly any corresponding studies in the literature on child language acquisition. It is also noteworthy to say that in comparison to the previously discussed groups of intransitively and monotransitively used verbs the set of complex-transitively used verbs in the CSB corpus is considerably small. Especially with regard to phrasal and phrasal-prepositional verbs it must be stated that there are altogether so very few of them (five and two, respectively) that a frequency examination becomes entirely unfeasible. With regard to prepositional verbs, one interesting aspect is that out of a total of only nine instances there are four instances of the verb *look* (*look at* and *look for*, two instances each) which has been found to also occur frequently in the monotransitive pattern and thus increases its overall frequency of occurrence.[108] Table 6.9 below displays the 20 most frequently occurring complex-transitively used verbs found in the CSB corpus:[109]

Table 6.9: Verbs used complex-transitively (489 in total; 130 different verb types)

Lexical verb	Number of instances	Lexical verb	Number of instances
put	44	*help*	12
see	43	*love*	11
take	37	*send*	9
make	29	*lead*	8
have	20	*pull*	8
hear	16	*leave*	7
keep	15	*use*	7
find	13	*call*	6
let	13	*do*	6
carry	12	*watch*	6

The lower overall frequency of occurrence of complex-transitive patterns in the data clearly has an impact on the frequencies with which individual lexical verbs are repeated in this construction type as Table 6.9 shows: only the first twelve verbs reach frequencies of occurrence higher than ten instances since, despite the low overall frequency of 489 instances, 130 different lexical verbs are found in the complex-transitive construction. Biber et al. (1999: 387) name *call* as the single most frequent verb used in the complex-transitive pattern across their four different registers. With precisely six instances of *call* the CSB corpus is in no accordance at all with Biber et

[107] For a detailed discussion of the problems connected with this construction type and the corpus annotation see Chapter 5.2.2 d).
[108] Appendix II, 8), 9) and 10) list all the lexical verbs that are found to occur in the combination with a particle, a preposition or both used in the complex-transitive construction in the CSB corpus.
[109] A complete list of all lexical one-word verbs used in the complex-transitive construction together with their frequencies of occurrence is provided in Appendix II, 7).

al.'s findings in this respect. Instead, it is the following five verbs that tend to have the most promising effects with regard to input frequencies: *put* (44 instances), *see* (43), *take* (37), *make* (29) and *have* (20). However, the fact that at least the last four verbs also rank very high (and in three out of four cases even higher) in the list of the most frequent monotransitively used verbs might neutralise the potential impact on the acquisition of verb constructions. Solely *put* really stands its ground: as the representative *par excellence* of the complex-transitive construction the verb only ever occurs in this construction in the CSB corpus, at least as long as it is used as a single-word verb, *i.e.* not in connection with a particle such as *on* or *down*.[110] All 44 instances of complex-transitive *put* appear in the SVOA sentence type with A (the obligatory adjunct) either realised by a prepositional phrase (example 23) or an adverb as in example (24):

(23) She folded the shirts and trousers carefully and **put** them <u>on the bed</u>. (CB 24)

(24) When they found a pair of Mr MacNally's socks or gloves, they **put** them <u>together</u>. (CB 24)

Figure 6.2 below shows all 44 usages of *put* in the CSB corpus. They are displayed in a *KWIC* concordance list which offers insight in the way the direct object position and the additional obligatory complementing element are realised in each case:

N	Concordance		
1	put	[PUT-FV-CTR(+A)]	a paw down into the jug and stirred[STIR-FV-MTR
2	put	[PUT-FV-CTR(+A)]	a notice in the window.
3	put	[PUT-FV-CTR(+A)]	a notice in the laundry window.
4	put	[PUT-FV-CTR(+A)]	a roof on Jack's house.
5	put	[PUT-FV-CTR(+A)]	all his cars into the hat to carry[CARRY-FV-CTR
6	put	[PUT-FV-CTR(+A)]	all the clothes tidily back into the cupboard, Alfie
7	put	[PUT-FV-CTR(+A)]	another notice in the window.
8	put	[PUT-FV-CTR(+A)]	Aristotle out in the garden.
9	put	[PUT-FV-CTR(+A)]	both paws on the rim of the jug and shoved
10	put	[PUT-FV-CTR(+A)]	Fuzzy under his pillow.
11	put	[PUT-FV-CTR(+A)]	her into the cardboard box and shoved[SHOVE-FV
12	put	[PUT-FV-CTR(+A)]	her wheelchair into ninety-second gear and went
13	put	[PUT-FV-CTR(+A)]	him in the basin and rinsed[RINSE-FV-MTR(NP)]
14	put	[PUT-FV-CTR(+A)]	him in Sophie's baby bouncer.
15	put	[PUT-FV-CTR(+A)]	himself between a wooden lion and a fearsome
16	put	[PUT-FV-CTR(+A)]	himself in the place where the bench had[HAVE
17	put	[PUT-FV-CTR(+A)]	his front feet on Bernard's toes and wagged
18	put	[PUT-FV-CTR(+A)]	his big feet on Dylan's chest and licked[LICK-FV

[110] Sethuraman and Goodman (2004a) list *put* among those verbs that first get extended by 28-month-olds to new syntactic environments. Note, however, that their definition of the various syntactic patterns is quite ample and differs decidedly from the current study's coding. Summed up, their analysis also shows *put* to be most often used in the complex-transitive construction (mothers 94 percent; children 76 percent).

19	put	[PUT-FV-CTR(+A)]	his head way back.
20	put	[PUT-FV-CTR(+A)]	his arm around Jim.
21	put	[PUT-FV-CTR(+A)]	Huggy beside Alice Bear.
22	putting	[PUT-FV-CTR(+A)]	it into her ear, then into her hair.
23	“Put	[PUT-FV-CTR(+A)]	it in here, Annie Rose,” said[DS] Alfie, opening
24	put	[PUT-FV-CTR(+A)]	it?” he asked[DS].
25	put	[PUT-FV-CTR(+A)]	it at the very back of the cupboard, where she
26	put	[PUT-FV-CTR(+A)]	it at the bottom of the toy cupboard where he kept
27	put	[PUT-FV-CTR(+A)]	it in tenth gear and went[GO-FV-ITR]
28	put	[PUT-FV-CTR(+A)]	into twentieth gear and went[GO-FV-ITR] very fast.
29	put	[PUT-FV-CTR(+A)]	nearly all his pieces of paper in place.
30	put	[PUT-FV-CTR(+A)]	our sail on a pole, and we tied[TIE-FV-CTR(+A)]
31	put	[PUT-FV-CTR(+A)]	some lettuce leaves in a tiny bag.
32	put	[PUT-FV-CTR(+A)]	that into another pile, until they found[FIND-FV-MTR
33	put	[PUT-FV-CTR(+A)]	the hat carefully at the bottom of his bed.
34	put	[PUT-FV-CTR(+A)]	the clothes into different piles.
35	put	[PUT-FV-CTR(+A)]	the floorboard back.
36	putting	[PUT-FV-CTR(+A)]	the treasure.”
37	put	[PUT-FV-CTR(+A)]	the mortar between the bricks.
38	put	[PUT-FV-CTR(+A)]	the broomstick back in the corner,” says[DS]
39	puts	[PUT-FV-CTR(+A)]	the water in the bath.
40	puts	[PUT-FV-CTR(+A)]	the pig in it.
41	put	[PUT-FV-CTR(+A)]	the giant carrot in his wheelbarrow.
42	put	[PUT-FV-CTR(+A)]	the wheelchair in first gear and rode[RIDE-FV-ITR]
43	put	[PUT-FV-CTR(+A)]	them together.
44	put	[PUT-FV-CTR(+A)]	them on the bed.

Figure 6.2: *KWIC* concordance list for *put* in the CSB corpus sorted by 4R, 5R, file order[111]

Goldberg (1995) who refers to the complex-transitive construction as “caused-motion” construction considers the verb *put* as the easiest candidate for the acquisition of this construction because the semantics of the verb itself and the semantics of the construction are most closely fused here: “*Put* lexically designates a type of caused-motion event, and caused motion is of course the semantics associated with the caused-motion construction” (1995: 60). Goldberg and her colleagues regard this assumption confirmed in a later study where, based on data from the Bates corpus (Bates et al. 1988) which is included in the CHILDES database, they analyse the speech samples of 27 children aged 28 months and find that the “verb *put* accounts for a full 31 percent […] of the instances of the construction in the children’s speech” (Goldberg et al. 2004: 296). In a follow-up analysis the input data of 15 corresponding transcripts is examined in order to find out if complex-transitive *put* is frequent in input as well. The results show that in 38 percent of all complex-transitive/caused-motion cases *put* is used by the mothers who, altogether, use 43 different lexical verbs in this pattern (ibid.: 298). Based

[111] In order to get the first words occurring after the verb and the information given in brackets such wide margins had to be chosen in WordSmith 4.0.

on their findings the authors argue that "the verb meanings need to be accessible as well as highly frequent in the input in order to be frequently produced in early child language" (ibid.; Slobin 1985). So the data found in the CSB corpus regarding the usage of the verb *put* are once again consistent with the results of other input studies: like the verb *go* that fills the verb slot in roughly twelve percent of the intransitive instances in the CSB data, instances of *put* account for a good part (roughly nine percent) of the complex-transitive construction. And, as in the case of *go*, the frequent occurrence of *put* in the complex-transitive frame in both spoken and written-to-be-read input language could help children acquire the construction and its meaning: "[…] constructions that are instantiated (to a great extent) by a single verb should be initially easier to learn than other constructions that are instantiated by many different verbs" (Casenhiser and Goldberg 2005: 506).

However, *put* does not account for the lion's share of the complex-transitive frame in the same way as noted by Goldberg et al. (2004) since the verb *see* occurs nearly as often, closely followed by *take*. Examples with different obligatory elements following the direct object are

(25) "We don't often **see** you up here in the jungle. (CB 45)

(26) Once a fox **saw** him running across a meadow and hopping across a little stream. (CB 48)

(27) He **takes** them to the pastry shop to eat some good cakes. (CB 30)

(28) In the mornings when Mum went to collect Alfie from Nursery School she **took** Annie Rose along. (CB 04)

(29) It **takes** an awful lot of tiny krill to feed a great big blue whale. (CB 44)

While the first is a verb of perception, the second is yet another motion verb which, just like *put*, is never really used intransitively (Levin 1993). Syntactically, all examples given so far are complex-transitively complemented. If considered in a more semantically-based framework, the examples (23), (24) and (27), (28) comply with the notion of the caused-motion construction which Goldberg (1995: 152) defines structurally as follows: [SUBJ [V OBJ OBL]] where V is a non-stative verb and OBL (oblique) is a directional phrase describing either a location or a path. However, the remaining examples (25), (26) and (29) are not such straightforward cases. The verb *see* which almost always occurs with a sentential *-ing* complement following the direct object is usually considered to be stative and thus neither matches Goldberg's caused-

motion "formula" nor Tomasello's descriptions of locatives, resultatives and causatives (2003: 153-155) all three of which correspond to the complex-transitive construction. The sequence "*see* + direct object + *-ing* clause" is therefore a somewhat "exotic" representative of the complex-transitive complementation pattern as are the other verbs of perception used in it in the CSB corpus (*hear*: 16 instances; *smell*: one instance; *watch*: six instances). Still, due to the high frequencies of *see* and also *hear*, young children will probably not find it very difficult to acquire this pattern, but it is very likely that they will store this usage pattern separately from, for instance, monotransitive *see* and *hear* for some time before integrating their linguistic representations of the different patterns for these verbs.[112]

Further verbs of interest listed in Table 6.9 are *make*, *let* and *help*. According to Tomasello (2003: 155), they are typical representatives of phrasal causatives which are an important instrument of the English language in that "they supply an alternative for causativizing an intransitive verb that cannot be used transitively". In phrases like (30) below, *make* is used as a direct causation matrix verb:

(30) They all climbed up on a chair and called "LITTLE BEAR" so loudly that they **made** themselves jump and almost fell off. (CB 33)

Goldberg (2006: 78) lists *make* as the most frequently used verb in the resultative construction stating that its meaning, like the meaning of *put* in the caused-motion construction, bears "a striking resemblance" to the meanings independently posited for the constructional pattern. Note, however, that *make* is just as often used in the resultative construction, *i.e.* with an adjectival object complement as in the following example:

(31) It suddenly made me mad. (CB 67)

The resultative construction, described by Tomasello (2003: 155) by the formula

RES-SUBJ RES-VERB RES-OBJ RES-ADJ

is related to the caused-motion construction via a so-called inheritance link (Goldberg 1995: 81-89). This explains why the two semantically distinguished constructions syntactically fall in the same category (complex-transitive) and are acquired parallel by

[112] Although the current work does not allow such an investigation, it would be interesting to investigate whether *see* and other verbs of perception also occur frequently in spoken input and in child language output in order to be able to make a more substantiated statement.

children (Tomasello 2003: 153-155).[113] We can therefore assume that it is the overall number of occurrences of one and the same verb in the different subtypes of the complex-transitive pattern that counts.

A related verb is *let*, also a causation matrix verb in English which, according to Tomasello, is "in fact the most frequent such verb for young English learners" (2003: 155). All complex-transitive instances of *let* found in the CSB corpus follow the same syntactic pattern: LET-FV-CTR(+CL). An example is

(32) He couldn't **let** anything happen to his Sara Jean. (CB 69)

In their function as causative matrix verbs *make* and *let* could be reduced to the common abstract denominator

CAUS-SUBJ *make*/*let* CAUS-R [CLAUSE].

A third verb to follow this pattern is *help*:

(33) D.W. and her brother, Arthur, **were helping** Mother unpack the groceries. (CB 02)

(34) Then Mum **helped** Alfie to put on his mac and his boots and rainhat […]. (CB 24)

While *make* and *let* in this construction are always complemented by an infinitive clause without *to*, *help* allows both the bare (33) and the *to*-infinitive (34). Not just in form of the storybook input but also in their spoken ambient language children probably hear these three similar phrasal causatives quite regularly; they also seem to use them around age 3;0 (Goldberg 2006: 77f, 113ff; Tomasello 2003: 153-155). But "whether young children see any common pattern among the utterances in which these three different matrix verbs are used" (Tomasello 2003: 155) remains an unanswered question at the time being.

If the 489 complex-transitively used verbs are sorted according to the forms of the obligatory element, it quickly becomes clear that the SVOA sentence types (CTR(+A) and CTR(+CL)) outnumber the SVOC types (CTR(+ADJ) and (CTR(+NP)):

[113] "Evidence that a relation in form aids in the acquisition of concepts which are related in meaning comes from studies of children's learning of taxonomic relations" (Goldberg 1995: 70).

Table 6.10: Lexical verbs across complex-transitive complementation patterns

	SVOC		SVOA	
	CTR(+ADJ)	CTR(+NP)	CTR(+A)	CTR(+CL)
Number of instances	40	13	302	134

There are 436 instances of SVOA sentences (89 percent) *versus* 53 SVOC sentences (eleven percent). Among the first group of sentences almost two thirds of them take an adverbial (+A) either in form of a prepositional phrase or in form of an adverb in place of the predication adjunct. In the remaining third the predication adjunct is realised by an infinite clause (+CL). Thus, storybook input language with regard to complex-transitive complementation is clearly biased: children hear many instances of the SVOA type and considerably fewer of the SVOC type.

6.2.6 Ditransitives

Altogether, 123 instances of ditransitively complemented full lexical verbs are found in the CSB corpus. Of these, only *give* (37 instances) and *tell* (34 instances) occur with any notable frequency. Twenty different lexical verb types are found in the ditransitive construction. If prepositional verbs are also taken into consideration, the number of ditransitively used verbs increases by another 37 instances (with 22 different verb types found in the multi-word compositions). No single lexical verb occurs with notable frequencies, however. There are an additional four instances of *give* and five more instances of *tell* among the prepositional verbs. *Play* is found four times. Frequencies of occurrence are thus overall comparatively small for individual verbs and with such low overall frequencies the group of ditransitively used verbs has the smallest share in the lexical verbs found in the CSB corpus. In the following analysis of ditransitively used verbs I will nevertheless discuss some issues that might prove relevant if the text language is considered as one possible input source.

In the previous chapter, I introduced the Quirkian subtypes of ditransitive complementation and stated that in my analysis I would distinguish (only) four such patterns: DTR(NP;NP), DTR(NP;PP), DTR(NP;CL) and DTR(PP;CL). How the lexical verbs in the CSB corpus are distributed across these four different types of ditransitive complementation is shown in Table 6.11:

Table 6.11: The distribution of ditransitively used lexical verbs across complementation patterns (160 in total; 36 different verb types)

Complementation pattern	DTR(NP;NP)	DTR(NP;CL)	DTR(NP;PP)	DTR(PP;CL)
Number of occurrences	79	44	33	4

As can be seen, the vast majority of the verbs are used in the double-object dative either with both object complements being noun phrases (79 instances) or with the indirect object realised by a noun phrase and direct object realised by a clause (44 instances). In the following examples, (35) illustrates the double noun phrase complementation and (36) to (38) offer three alternatives for the DTR(NP;CL) pattern:

(35) "I'll **bring** you a nice cup of tea." (CB 18) – DTR(NP;NP)

(36) Old Nell soon **showed** her how to round them up. (CB 08) – DTR(NP;CL)

(37) Alfie **asked** them if they were coming to buy something at the shop. (CB 23) – DTR(NP;CL)

(38) She **told** us to hold hands, in case the school rocked, so we wouldn't fall into the water. (CB 15) – DTR(NP;CL)

Table 6.11 further shows that there are 33 instances of the DTR(NP;PP) pattern in the CSB corpus in which the position of the indirect object is filled with a noun phrase followed by a prepositional object which is either a noun phrase (28 instances) or a clause (five instances). Examples are given in (39) and (40):

(39) Lauretta drove in and **gave** her brother **to** the doctor, and the doctor sewed up her brother's finger. (CB 58) – (PP = NP)

(40) Then he made a mark in the dirt and **mumbled** something **about** where the infield bases should be. (CB 67) – (PP = CL)

With altogether only four instances the share of lexical verbs used in the DTR(PP;CL) pattern is so small that it has to be disregarded in the current context. So, by way of summarising, it can be said at this point that, with regard to ditransitive complementation patterns, the input language to which children are exposed through storybook reading is evidently biased towards the double-object dative construction. If anything, children could pick up the meaning and use of this construction type.

Syntactically, the most frequently used construction type comes very close to what Mukherjee (2005: 65) in a working definition of ditransitive verbs refers to as the "basic form" of ditransitive complementation:

> A ditransitive verb (DV) is a trivalent verb that requires a subject (S), a direct object (O_d) and an indirect object (O_i) for a complete syntactic complementation. It is

> necessary for all clause elements to be realisable as noun phrases (NPs): this realisation (S:NP – DV – O_i:NP – O_d:NP) is called the basic form of ditransitive complementation.

Just as required by this definition, all three clauses functioning as O_d in the above-given examples (36)-(38) could be replaced by a simple noun phrase to arrive at the basic ditransitive complementation type as defined above. This is, in fact, possible for all of the lexical verbs that are used in the DTR(NP;CL) pattern in the CSB corpus (*ask*, *give*, *show*, *teach* and *tell*). If we accept an in this manner "extended" basic form of ditransitive complementation, it can be said that, syntactically, there are 123 instances of the basic form of ditransitive complementation in the CSB corpus. With regard to the semantics of ditransitive verbs, Mukherjee states:

> All ditransitive verbs and ditransitive complementations are associated with an underlying proposition that represents the situation type of TRANSFER with three semantic roles involved: the ditransitive verb denotes an action in which the *acting entity* transfers a *transferred entity* to the *affected entity* (Mukherjee 2005: 65; emphases in the original).

Such a definition is in line with Goldberg (1995, 2006) who argues that in its central sense the ditransitive construction describes a "case of actual successful transfer" (1995: 32). However, she goes on stating that there are a number of related meanings which are expressed by the construction which, in many cases, do not strictly imply (successful) transfer at all (e.g., verbs of permission such as *permit* or *allow* only enable transfer to occur and for verbs of creation (*make*, *build*) and obtaining (*get*, *win*) transfer is only a *ceteris paribus* implication). Goldberg therefore concludes that the ditransitive is best "viewed as a case of constructional polysemy: the same form is paired with different but related senses" (1995: 33). The 19 different lexical verbs used in the CSB corpus in the extended basic [DTR(NP;NP) and DTR(NP;CL)] ditransitive pattern all conform to the multifaceted semantics of the construction. Examples are given below:

(41) "So you can **cook** me a nice dinner every day, Bear! […]" (CB 29)
→ verb of creation; transfer is a *ceteris paribus* implication

(42) "Why not **paint** them a picture as a surprise?" (CB 50)
→ verb of creation; transfer is a *ceteris paribus* implication

(43) **Pick** me some runner beans and sugar snap peas. (CB 32)
→ verb of obtaining; transfer is a *ceteris paribus* implication

This brief discussion of two complementary approaches to ditransitivity serves to indicate that, although the categorisation scheme for ditransitives adopted from Quirk et al. (1985) works well on a primary analytical level, it does not tell the whole or, at least, not the only story. Rather, linguists seem to have (very) different assumptions of the concept of ditransitivity and of the boundaries of its syntactically and semantically acceptable features. Indeed, any analysis of ditransitively used verbs in English depends very much on the model of ditransitivity upon which it is based. The literature on ditransitive complementation contains a multitude of competing models that can be distinguished by perspectives, methodologies and the databases that are used.[114] Hence, the role ascribed to the other relatively frequent construction type found in the CSB corpus, namely the prepositional (NP;PP) complementation pattern, in the current context can also be interpreted differently depending on whether one considers the two, *i.e.* the (NP;NP) and the (NP;PP) construction, as independent or related constructional patterns.

An example of separating the two is found in Goldberg's (1995, 2006) construction grammar approach which takes the cognitive argument structure as a starting point for its description of ditransitivity. While she argues in favour of recognising both ditransitives paraphrasable with *to* and with *for* as members of the same constructional class (2006: 26-28), Goldberg does not treat ditransitives and their prepositional paraphrases as such. In her opinion, these two constitute different types of constructions: "By widening our focus beyond those expressions that may serve as paraphrases of ditransitives, we see that each paraphrase expression itself is a small part of a much broader generalization" (2006: 33). Figure 6.3 below illustrates this separation and shows that the wider focus includes other prepositions than *to* (examples are given by the verbs under *D*.).

[114] A comprehensive overview of the various existing models of ditransitivity is found in Mukherjee (2005: 3-63).

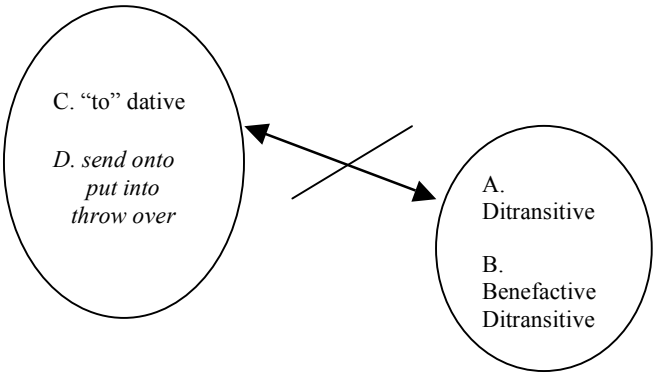

Figure 6.3: The ditransitive and the caused-motion construction[115]

The left circle stands for the "caused-motion construction" which is said to exist as a general construction, independent of the ditransitive, and for which there are, Goldberg argues, similar extensions of meaning as for the ditransitive construction. And while "the caused-motion construction is S(emantically) synonymous with the ditransitive construction", Goldberg does not see the two constructions as being related on either a syntactic or a pragmatic level (1995: 89-97). The semantic synonymy between the two constructions, however, is not sufficient to establish a motivation or inheritance link between them in the organisational network of constructions (Goldberg 1995: 91), it is a mere cognitive link and consequently, Goldberg concludes, children must acquire the basic ditransitive construction (e.g., *John gave Mary an apple*) and its metaphorical extensions independently from the caused-motion construction (e.g., *John gave an apple to Mary*) and its extensions. It must be noted, however, that eventually Goldberg does not altogether deny the fact "that possible paraphrase relations play *no* role in the learning, processing, or representation of language" (2006: 43).

The usage based approach taken by Mukherjee (2005), on the other hand, favours a model that takes "the ditransitive verb in all its ditransitive patterns" as its starting point for an analysis and proceeds to develop its syntactic, semantic and cognitive assumptions about ditransitivity in a bottom-up process (2005: 53). In order to be able to generate an integrated model of this kind, Mukherjee combines different perspectives on ditransitivity, regardless of their origins. His approach results in a pluralist theory of ditransitivity which captures three different, but overlapping levels of analysis: the cognitive/semantic, the functional-grammatical and the lexico-grammatical categories of ditransitivity (2005: 64f). In contrast to Goldberg's purely constructivist,

[115] The diagram displayed in Figure 6.3 is taken from Goldberg (2006: 34).

cognitive framework, such a pluralist approach provides the opportunity to summon up various aspects of ditransitivity. In the current work, it will allow me to account for the frequencies of complementation patterns regarding individual lexical verbs as well as for the complexity and variety of the formal realisations (e.g., NP or PP or CL) of the semantic roles involved in the ditransitive complementation of individual verbs, including those verbs that occur in any of the paraphrase constructions. Hence, for the purpose of this study and based on the remarks found in Quirk et al. (1985: 1208-1211), a number of prepositional verbs (and with them a range of prepositions, e.g. *about*, *for*, *into*, *to*, *with*) were treated as ditransitive verbs if, and only if, the same participant roles (*i.e.* agent, patient and recipient) as in the basic ditransitive construction occur in the constructions in which they are used and if some kind of transfer is expressed by the construction in question. Furthermore, the verbs were only marked as DTR if they represent the typically ditransitive SVOO clause pattern. Such a wider perspective leads to the 37 prepositional dative constructions indicated in Table 6.11.

With the overall frequencies of the four different ditransitive complementation patterns already dealt with (Table 6.11 above), a more detailed look at frequency information becomes necessary at this point. Therefore, I will now turn my attention to the token frequencies of individual lexical verbs used in the particular ditransitive constructions found in the corpus and to the type frequencies of constructions, *i.e.* the number of distinct verbs that occur in the particular ditransitive constructions.[116]

Table 6.12 shows the token frequency of the ten most regularly used verbs across the various complementation patterns found in the CSB corpus. Note that, since there are only four instances of the DTR(PP;CL) pattern, no frequency aspects could be accounted for this constructional subtype.

[116] For a complete list of verbs used ditransitively see also Appendix II, 11) and 12).

Table 6.12: The token frequencies of lexical verbs across ditransitive complementation patterns

Lexical verb	DTR(NP;NP)	DTR(NP;CL)	DTR(NP;PP)	total
ask	1	7	–	8
bring	2	–	1 (*to*)	3
buy	4	–	–	4
give	**35**	**2**	**4 (*to*)**	**41**
make	3	–	2 (*into*)	5
read	3	–	1 (*to*)	4
send	9	–	–	9
show	3	6	–	9
teach	–	3	–	3
tell	**8**	**26**	**5 (*about*)**	**39**

For the sake of clarity, Table 6.12 already contains some verbs which – due to their rather low numbers of occurrence in the data – must be dismissed in the current context of input effects on language acquisition (*bring*, *buy*, *make*, *read*, and *teach*). All other lexical verbs occur even less frequently in ditransitive complementation patterns in the corpus. The usage of these verbs must thus be considered as being insignificant when it comes to acquiring any of the dative constructions as such, *i.e.* the meaning of the construction. At the very most, they may be considered as candidates for either strengthening or expanding a child's knowledge of ditransitive constructions once a few other verbs have been acquired and the "cognitive anchor" for the construction has been dropped, so to say. They would then function as further examples to reassure the child of the proper way of using the ditransitive construction in question syntactically and of the semantics embedded in and expressed by that particular linguistic construction.

Table 6.13 shows the type frequencies for the three common ditransitive complementation patterns in the storybook context:

Table 6.13: The type frequencies of ditransitive constructions

Complementation pattern	DTR(NP;NP)	DTR(NP;CL)	DTR(NP;PP)
Number of different lexical verbs	18	5	21

Table 6.13 reads as follows: first, 21 different prepositional verbs occur in the 33 realisations of the DTR(NP;PP) construction. However, the significance of this high number of different verbs must not be misinterpreted. While it says something about the productivity of the pattern and the various possibilities of metaphorical extension of the meaning of the construction of which authors/language users make use, this comparatively high type frequency will not prove helpful to language learning children unless they have already reached a further advanced language level. Only very few

instances occur repeatedly[117], so that through storybook reading virtually no basis for the actual acquisition of this dative construction type is given. Secondly, 18 different lexical verbs are found in the 79 instances of the DTR(NP;NP) pattern. Thus there also exists a considerable type frequency for this complementation pattern but the ratio between the different lexical verbs that occur in the construction and the overall occurrence of the construction type is more balanced from the language learners' perspective than is the case with the DTR(NP;PP) construction. Even if the verb *give*, which has by far the biggest share in this complementation pattern, is left out of the equation, there are still nine other lexical verbs that occur repeatedly. Finally, if considered on its own, the DTR(NP;CL) pattern shows a very low type frequency since only five different lexical verbs occur in the 44 instances of this construction type. However, if taken together with the DTR(NP;NP) pattern as one double-object ditransitive construction with different formal realisations, it could be said that the 123 instances of the double-object ditransitive construction are realised by 19 different lexical verbs. The chances are thus not altogether bad that children repeatedly hear a small number of verbs used in this construction type when listening again and again to storybook texts and are thus aided in their acquisition of the form and meaning of both the DTR(NP;NP) and the DTR(NP;CL) pattern.

Clearly though, the comparatively numerous occurrence of *give* and *tell* in the data is most promising in the context of storybook reading with regard to frequency effects of input language. On the one hand, these are the only two verbs that are used across all three complementation patterns and, on the other hand, they are by far the most frequent verbs generally occurring in ditransitive constructions in the corpus. Altogether, both verbs most often appear in the double-object dative construction, yet while *give* is primarily used in the (NP;NP) ditransitive pattern, *i.e.* complemented with two noun phrases (35 instances), *tell* predominantly occurs in the DTR(NP;CL) pattern (26 instances), as shown in examples (44) to (47):

(44) One day George **gave** Bartholomew a little black kitten. (CB 35) – DTR(NP;NP)

(45) Mrs MacNally **told** Alfie that Mr MacNally had bought it to wear on a very special occasion […] (CB 24) – DTR(NP;CL)

[117] There are four instances of *give to*, five of *tell about* and two each of *remember about*, *play with*, *use for* and *make into*.

(46) Maybe it will **tell** you how to fall asleep! (CB 61) – DTR(NP;CL)

(47) At first, Mimsey **told** him to be quiet in case he woke up the children […] (CB 55) – DTR(NP;CL)

According to Mukherjee, both verbs belong to the group of "typical" ditransitive verbs: typical ditransitive verbs "are used very frequently in general *and* also frequently in an explicit ditransitive syntax (*give*, *tell*)" (2005: 83; emphasis in the original).[118] With regard to *tell* the corpus data support such an allocation since the verb occurs an additional 20 times across other complementation patterns (ITR: two instances; MTR: 15 instances; CTR: three instances). For *give*, however, a different pattern emerges: there are altogether only ten instances of the verb across other complementation patterns (MTR: eight instances; ITR (*give up*): two instances). Thus, the usage of *give* is clearly biased towards the ditransitive construction within the CSB corpus.

With regard to dative acquisition in general, researchers focused time and again (and independent of the theoretical perspective they may have adopted) on one central question and the possible implications behind it: do children acquire prepositional datives earlier than double-object datives? Based on a number of comprehension and imitation studies from the 1970s and early 1980s (e.g., Cook 1976; Fischer 1971; Osgood and Zehler 1981; Roeper et al. 1981) it had been concluded at that time that young children had severe difficulties with double-object datives. The results of more recent studies, however, suggest that neither of the constructions is systematically acquired earlier (e.g., Campbell and Tomasello 2001; Conwell and Demuth, in press; Gropen et al. 1989; White 1987). So, for instance, Campbell and Tomasello, after comparing maternal language input and child output data of seven English-speaking children in a corpus-based study, conclude that "the overall pattern seemed to be that children learned the double-object dative first because this was what they heard from their parents most often" (2001: 258f).[119] In a second step, the authors determine the percentage of parent use and child use for those lexical verbs that the children used in

[118] Based on frequency information, Mukherjee distinguishes three groups of ditransitive verbs: apart from typical ditransitive verbs there are "habitual ditransitive verbs, which are used fairly frequently in general but not in an explicit ditransitive syntax in the clear majority of all cases in which they occur (*ask*, *send*, *show*, *offer*)" and "peripheral ditransitive verbs which are used only sporadically in general and/or which are used rarely in an explicit ditransitive syntax" (e.g., *buy*, *read*, *teach*) (2005: 83-84).

[119] But note that two of the children did not show a distinct preference for one construction over the others. One child began with a *for*, one a *to* dative and both children quickly produced all three constructions while those children who started off with the double-object dative construction took far longer in acquiring all three constructions (Campbell and Tomasello 2001: 256).

both double-object and *to* datives. For five out of seven parent-child dyads *give* turns out to be the verb used most frequently in both constructions by mother and child, with the double-object use clearly dominating the picture. The data displayed in Gropen et al. (1989: 213-216) support these findings. Other frequent verbs used in alternation are *read*, *show*, *bring*, *get* and *make*. It can thus be said that in language acquisition studies on ditransitivity *give* frequently seems to play a prominent role as well (e.g., Campbell and Tomasello 2001; Goldberg et al. 2004; Gropen et al. 1989; Ninio 1999; Snyder and Stromswold 1997; Tomasello 2003).

This is not surprising, however, bearing in mind that of all lexical verbs *give* is often presented in the literature as the ditransitive verb *par excellence*: "*Give*, however, is the most prototypical ditransitive verb because its lexical semantics is identical with what is claimed here to be the construction's semantics" (Goldberg 1995: 35). From this claim another central research question regarding the acquisition of datives in English follows: does the fact that the verb *give* conveys most reliably the central sense of ditransitivity naturally make it a prime candidate for/(with)in the acquisitional process?[120] It goes beyond the current study's objective to answer this question so that it restricts itself to the assumption "that constructions that are instantiated (to a great extent) by a single verb should be initially easier to learn than constructions that are instantiated by many different verbs" (Goldberg et al. 2004: 303). If this is indeed the case, the corpus data is interesting precisely because with *tell* it contains a second high frequency verb in addition to *give* which is not usually mentioned among the most frequently occurring verbs in parental spoken input (compare, e.g., Campbell and Tomasello 2001: 258f, Table 2). In contrast to the verb *give*, which conveys the prototypical meaning of the adult double-object dative construction, *tell* belongs to the family of "verbs of communicated message", a group of verbs that, according to Goldberg (1995: 148ff), is licensed to be used in the basic ditransitive construction through metaphorical extension. Figures 6.4 and 6.5 show all instances of both *give* and *tell* as they occur in the CSB corpus:

[120] A review of the relevant literature quickly reveals that opinions are divided and that arguments for and against a predominant role of *give* regarding the acquisition of English dative constructions are based on a range of different aspects (compare, for instance, Campbell and Tomasello 2001; Goldberg et al. 2004; Gropen et al. 1989).

N	Concordance		
1	giving	[GIVE-FV-DTR(NP;CL)]	Bramwell time to hide[HIDE-FV-MTR(NP)]
2	give	[GIVE-FV-DTR(NP;CL)]	him whatever he wants[WANT-FV-MTR(NP)]
3	gave	[GIVE-FV-DTR(NP;NP)]	Alfie a long cardboard box to play
4	gave	[GIVE-FV-DTR(NP;NP)]	Bartholomew a little black kitten.
5	gave	[GIVE-FV-DTR(NP;NP)]	each bear a piece of it with the tip of his
6	gave	[GIVE-FV-DTR(NP;NP)]	her a 100-dollar ticket for speeding.
7	gave	[GIVE-FV-DTR(NP;NP)]	her a hug.
8	gave	[GIVE-FV-DTR(NP;NP)]	her my second best pig.
9	gave	[GIVE-FV-DTR(NP;NP)]	him a big hug.
10	give	[GIVE-FV-DTR(NP;NP)]	him a great big hug!”
11	gave	[GIVE-FV-DTR(NP;NP)]	him a long look with her beady eyes.
12	give	[GIVE-FV-DTR(NP;NP)]	him a shout.”
13	give	[GIVE-FV-DTR(NP;NP)]	him height,” Mrs MacNally said[DS].
14	gives	[GIVE-FV-DTR(NP;NP)]	him her purse.
15	given	[GIVE-FV-DTR(NP;NP)]	him last summer.
16	gives	[GIVE-FV-DTR(NP;NP)]	him lessons.
17	give	[GIVE-FV-DTR(NP;NP)]	him one?”
18	given	[GIVE-FV-DTR(NP;NP)]	him the car.
19	gave	[GIVE-FV-DTR(NP;NP)]	him?”
20	give	[GIVE-FV-DTR(NP;NP)]	it a rub you can[VMOD] stick[STICK-FV-MTR
21	Give	[GIVE-FV-DTR(NP;NP)]	it a try for free!
22	giving	[GIVE-FV-DTR(NP;NP)]	me a bad time and thought[THINK-FV-MTR
23	gave	[GIVE-FV-DTR(NP;NP)]	me the thumps-up sign.
24	give	[GIVE-FV-DTR(NP;NP)]	our baby a bear!” Tom said[DS].
25	gave	[GIVE-FV-DTR(NP;NP)]	Spot a hug and another goodnight kiss.
26	gave	[GIVE-FV-DTR(NP;NP)]	the ball a huge kick...
27	gives	[GIVE-FV-DTR(NP;NP)]	the dog a great whack with it, and he lets
28	gave	[GIVE-FV-DTR(NP;NP)]	the dragon a hug and another kiss.
29	gave	[GIVE-FV-DTR(NP;NP)]	the little black kitten a surprise with the
30	gave	[GIVE-FV-DTR(NP;NP)]	the little black kitten a swing, a ride in his red
31	giving	[GIVE-FV-DTR(NP;NP)]	the matter much thought, because he didn’t
32	gave	[GIVE-FV-DTR(NP;NP)]	the new baby his Huggy.
33	gave	[GIVE-FV-DTR(NP;NP)]	a ride across the field to the park fence.
34	give	[GIVE-FV-DTR(NP;NP)]	a thumps-up OK sign as he drove[DRIVE-FV
35	give	[GIVE-FV-DTR(NP;NP)]	you my hat.
36	give	[GIVE-FV-DTR(NP;NP)]	you the end of this string and then you won’t
37	gave	[GIVE-FV-DTR(NP;NP)]	you,” sobbed[DS] Alfie.

Figure 6.4: *KWIC* concordance list for *give* in the CSB corpus sorted by 4R, 5R, file order

N	Concordance		
1	told	[TELL-FV-DTR(NP;CL)]	Alfie that Mr MacNally had[HAVE-VAUX] bought
2	told	[TELL-FV-DTR(NP;CL)]	Daddy that the money didn’t[DO-VAUX] matter
3	told	[TELL-FV-DTR(NP;CL)]	him how they had[HAVE-VAUX] paddled
4	told	[TELL-FV-DTR(NP;CL)]	him that it tasted[TASTE-VCOP] delightful.
5	told	[TELL-FV-DTR(NP;CL)]	him to be[BE-VCOP] quiet in case he woke[WAKE
6	told	[TELL-FV-DTR(NP;CL)]	him, full of milk of some sort, though from which
7	told	[TELL-FV-DTR(NP;CL)]	him, made[MAKE-FV-MTR(NP)] an appetizing
8	told	[TELL-FV-DTR(NP;CL)]	him, stood[STAND-FV-ITR] a large heavy
9	tell	[TELL-FV-DTR(NP;CL)]	Lucy what he had[HAVE-VAUX] overheard
10	told	[TELL-FV-DTR(NP;CL)]	me he was[BE-VAUX] saving[SAVE UP-FVphpr
11	tell	[TELL-FV-DTR(NP;CL)]	me how to fall[FALL-FV-ITR] asleep.
12	tell	[TELL-FV-DTR(NP;CL)]	me how to get[GET] to sleep[SLEEP-FV-ITR]!
13	tell	[TELL-FV-DTR(NP;CL)]	me how to get[GET] to sleep[SLEEP-FV-ITR]!”
14	tell	[TELL-FV-DTR(NP;CL)]	me how to get[GET] to sleep[SLEEP-FV-ITR],”
15	told	[TELL-FV-DTR(NP;CL)]	me if I caught[CATCH-FV-MTR(NP)] the star, it
16	telling	[TELL-FV-DTR(NP;CL)]	me she was[BE-VCOP] all dressed in black, with

17	told	[TELL-FV-DTR(NP;CL)]	me that Gordon was[BE-VAUX] tricking[TRICK-FV
18	tell	[TELL-FV-DTR(NP;CL)]	me what you see[SEE-FV-MTR(NP)]!"
19	told	[TELL-FV-DTR(NP;CL)]	Mr. Walters that even though he was[BE-VCOP]
20	told	[TELL-FV-DTR(NP;CL)]	my daddy that I needed[NEED-FV-MTR(NP)] an
21	told	[TELL-FV-DTR(NP;CL)]	Owen to put[PUT-FV-CTR(+A)]Fuzzy under his
22	tells	[TELL-FV-DTR(NP;CL)]	the dromedary to go[GO-FV-ITR] to town and buy
23	telling	[TELL-FV-DTR(NP;CL)]	the other stars how to get[GET] to sleep[SLEEP
24	told	[TELL-FV-DTR(NP;CL)]	us to hold[HOLD-FV-MTR(NP)] hands, in case
25	tell	[TELL-FV-DTR(NP;CL)]	you how to fall[FALL-FV-ITR] asleep!"
26	told	[TELL-FV-DTR(NP;CL)]	you this morning not to get[GET] your dress
27	told	[TELL-FV-DTR(NP;NP)]	him about Max. They made[MAKE-FV-CTR(+CL)]
28	tell	[TELL-FV-DTR(NP;NP)]	him something. "I wonder[WONDER-FV-ITR]…"
29	tell	[TELL-FV-DTR(NP;NP)]	him. Jim looked[LOOK-FV-MTR(NP)] all the way
30	told	[TELL-FV-DTR(NP;NP)]	them a scary story about a monster with three l
31	"Tell	[TELL-FV-DTR(NP;NP)]	them a story now," said[DS] Grandma.
32	"Tell	[TELL-FV-DTR(NP;NP)]	us a story, Grandpa."
33	tell	[TELL-FV-DTR(NP;NP)]	you something, Aristotle," she said[DS] to him, "I
34	tell	[TELL-FV-DTR(NP;NP)]	you what!" said[DS] Mimsey suddenly.

Figure 6.5: *KWIC* concordance list for *tell* in the CSB corpus sorted by 4R, 5R, file order

Although it seems to suggest itself that it would be easiest for children to acquire first those verbs that are designated to convey the more prototypical ditransitive meanings in adult language terms, several observational studies have shown that the use of verbs in dative constructions in child language is not limited in this sense (Campbell and Tomasello 2001: 262; Gropen et al. 1989: 216; Tomasello 2003: 151ff). So the frequent instantiation of ditransitive *tell* in the corpus data is surely useful since children are able to acquire several different ditransitive meaning nuances at once. Evidently then, the facilitating effects assigned to high frequencies of occurrence of particular verbs in particular constructions with regard to verb and also construction learning are not restricted to a few number of semantically prototypical verbs. However, at which point in development children understand the usage of, for instance, *give* and *tell* in alternating dative constructions to be based on one and the same type of (ditransitive) construction still remains an open question. Interesting in this context is Conwell and Demuth's (in press) recent study. Based on their performance in a specially modelled comprehension and production experiment the authors try to assess English-speaking three-year-olds' possession of abstract knowledge of the dative alternation. In contrast to earlier studies their findings indicate that at the age of 3;0 child language production shows evidence of syntactic generalisation of the dative alternation: when presented with verb X in the double-object construction and verb Y in the prepositional *to* dative, most children subsequently produced both nonce-verbs in the latter construction. The authors conclude: "This suggests that three-year-olds have productive knowledge of the

alternation from the double object dative to the prepositional dative, but show less of a tendency to alternate from prepositional to double object datives" (Conwell and Demuth, in press). In their attempt to explain why children might be able to generalise their verb usage only in one direction at this stage Conwell and Demuth once again also consider frequency effects of verb and construction usage in the input language.

According to these most recent findings it will be possible for young children to deduce useful syntactic information on the usage of dative constructions from the structures found in storybook texts and to slowly advance their constructional generalisation processes. And for even younger listeners the reading material still contains at least two frequent verb-construction-pairs (DTR(NP;NP) – *give*; DTR(NP;CL) – *tell*) that they could work with on an item-based learning level.

6.3 *En route* to generalisation: Input frequencies *versus* light verbs, semantic similarity and distributional aspects

In the course of my discussion of the different verb constructions, it was repeatedly noted that almost all of the high frequency verbs accounted for in the CSB data also occur frequently in spoken input language and early in child language. This is particularly true for *go* and *come* (intransitive complementation), for *put* (complex-transitive complementation) and for *give* (ditransitive complementation). Independently of the complementation pattern in which they are most often used these verbs share one particular feature: they all belong to a group of verbs that is varyingly referred to as "light", "general purpose", "generic" or "semantically general verbs".[121] Characteristically, such verbs are among the most frequent verbs in the language at large; they usually have very general meanings and appear in multiple syntactic frames; and their basic meanings are remarkably closely related to the meaning of the particular argument structure constructions in which they are most often used (e.g., Goldberg 2006). Note, however, that there is a lack of consensus among researchers as to exactly how these verbs should be defined and which verbs are thought to belong this group

[121] These terms are used interchangeably in the literature on child language acquisition research, often depending on personal preferences of the author(s) (e.g., Abboth-Smith et al. 2004; Ninio 2005; Theakston et al. 2004). Generally, they are also commonly referred to as, for instance, "verbo-nominal phrases" or "constructions" (e.g., Hoffmann 1972; Stein 1991; Quirk 1995). Alternatively, terms such as "expanded predicate" (Algeo 1995) or "support verb constructions" (Krenn 2000) are found. Allerton (2002) calls them "stretched verb constructions". Such a variety of terms hints at the difficulty in providing an exact definition for the phenomenon in question.

(Theakston et al. 2004: 68f). Notwithstanding this dissention, researchers working in the constructivist/emergentist tradition time and again draw on just these verbs, among other aspects, when formulating hypotheses about how children might move beyond their early concrete representations of individual verbs towards more abstract representations.

In her 1999 paper on the emergence of the semantics of argument structure in child language, Goldberg, for example, regards what she calls highly frequent "light" verbs as the basis for children's generalisation from individual verb meanings to constructional meaning:

> […] children are likely to record a correlation between a certain formal pattern and the meaning of the particular verb(s) used most early and frequently in that pattern. This meaning would come to be associated with the pattern even when the particular verbs themselves do not appear. Because light verbs are more frequent than other verbs and are also learned early, these verbs tend to be the ones around which constructional meaning centers (Goldberg 1999: 204).

Various studies report that light verbs such as *go*, *get*, *do*, *make*, *give* and *put* are not only among the most frequent verbs cross-linguistically, but also among the first in acquisition (e.g., Clark 1996). In comparison with other input studies, the present analysis showed that often the same semantically general verbs found in spoken language also occur with high frequencies in the corresponding constructions in the storybooks' text language. However, there is not always a single prototypical lexical verb that appears with far higher token frequency in any one argument frame as suggested by Goldberg et al. (2004). Instead, the corpus data more than once contain a second or third very frequent (and also semantically general) verb in a given construction, e.g. *see* in addition to *put* in the complex-transitive or *tell* in addition to *give* in the ditransitive frame.

While Goldberg emphasises "the role of general purpose verbs in the acquisition of the semantics associated with basic syntactic patterns" (2006: 79), Ninio (1999), in a similar approach, stresses their role in the early acquisition of syntactic patterns. In her view, early-combining verbs, *i.e.* verbs that first appear in combination with a noun phrase (verb-object or subject-verb-object combinations), enable "the child to learn the general principles of a particular syntactic pattern on a lexical basis" (Ninio 1999:

620).[122] Semantically general verbs such as *take*, *give*, *make* and *do* are the likeliest candidates to function as "pathbreakers" of transitive syntax since they dispose of "strong inherent transitive valency and little specific semantics" (1999: 646). Ninio attributes the unusually strong intrinsic valency to the semantics of these verbs: "they exist in the lexicon to depict person-object relations, and neither of the participants is cancellable" (ibid.). Although complementary regarding the possible functions of a particular group of lexical verbs in the acquisitional process the two studies, Goldberg (1999) and Ninio (1999), differ decidedly in their explanations for the early acquisition of light verbs. Goldberg sees these highly frequent, semantically general verbs as "easy-to-acquire" prototypes of the individual constructions, but Ninio explains their early occurrence in child language with their apparently inherent high degree of semantic transitivity.

However, the argument behind Ninio's pathbreaking verb hypothesis according to which generic verbs of the type found in the CSB corpus smooth the way into the acquisition of verb syntax is problematic. Those verbs that according to Ninio (1999) qualify best as pathbreakers due to their high degree of transitivity turn out to be on the wrong end of Hopper and Thompson's (1980) scalar transitivity. For instance, some of them do not describe a dynamic action, some are stative, mostly they only have minimally affected objects etc. Yet, prototypical transitivity (or: High Transitivity) is said to be characteristic of verbs which describe dynamic active events involving a volitional actor acting on a highly affected object (Hopper and Thompson 1980, 2001). In short, children's early semantically general verbs are rather low in their degree of transitivity.

Other ideas concerning the role of light verbs in acquisition prove problematic as well. For instance, Theakston et al. (2004) demonstrate that semantically general verbs are not acquired earlier simply because of they encode general meanings, as suggested by Clark (1978). Based on an extensive input study the authors show that frequency effects in the input clearly carry more authority when it comes to age and order of acquisition than semantic generality on its own: "[…] once the effects of input

[122] Keren-Portnoy (2006) resumes Ninio's idea that the acquisition of new verbs in a structure is based on and facilitated/accelerated by previously acquired verbs. Stressing the role of practice Keren-Portnoy develops a more active view of the learning child and suggests that "right from the start new items which are learned and stored in memory begin to form a system, a network of connections […]" (2006: 514).

frequency are removed, semantic generality plays a relatively minor role in determining the age of acquisition of verbs in children's speech" (ibid.: 89). The same can be said about the argument structures in which semantically general verbs at first appear: although the most frequent verbs in English have no single fixed argument structure but rather occur in a wide range of frames and specific (lexicalised) constructions (Thompson and Hopper 2001: 49f), they do not show greater syntactic diversity than more specific verbs in child language (Theakston et al. 2004: 89). In a similar fashion, Theakston et al. challenge further ideas regarding the role of light verbs in early child language (acquisition) and, based on their study and cross-linguistic evidence, come to the conclusion "that it is the frequency of individual verbs and their patterns of use in the input for the specific language children are learning […] that motivates early verb learning" (2004: 91). It can thus be assumed that the persistent occurrence of generic verbs in the CSB corpus as well as the frequent use of other, generally less frequent verbs (in spoken input) in storybook language could have a positive impact on a child's developing system of verb representations if he or she hears it repeatedly used in the context of a certain text or a number of texts.

Apart from frequencies of occurrence and semantic generality aspects such as the semantic similarity between the verbs used in the individual constructions (e.g., Abbot-Smith et al. 2004; Ninio 2005) or distribution – syntactic consistency *versus* syntactic diversity – (e.g., Mintz 2006) are often considered in the context of verb acquisition and were also mentioned from time to time in the previous discussion of complementation patterns in the CSB corpus. If put to test against authentic data, each one of them appears to be important with regard to children's extensions of lexical verbs to new syntactic patterns and no single one can fully explain the processes of generalisation (Sethuraman and Goodman 2004a). Bearing this in mind, Sethuraman and Goodman (2004a: 86) develop the following scheme:

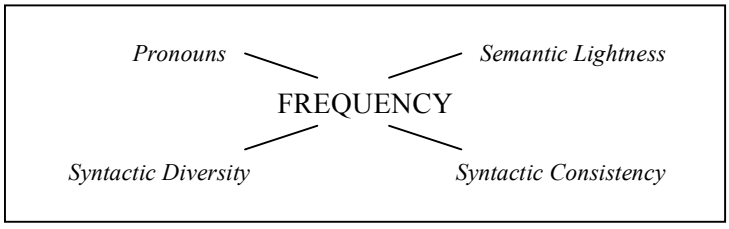

Figure 6.6: Frequency relations

As can be seen in Figure 6.6, all the individual aspects that were analysed in the current study are tied to one central factor, namely frequency effects. They also formed the central object of analysis in the present chapter which was devoted to uncover general tendencies of distribution of lexical verbs for each of the four complementation patterns in turn.

6.4 Summary

In the current chapter, I have offered a comprehensive overview of the usage of the 5,479 full lexical verbs that were found in the CSB corpus based on their occurrence in the four main usage patterns. I started out by presenting the general distribution of all verbs across the four complementation groups. In this connection, I already noted a clear preference for monotransitive and intransitive verb constructions in the children's storybook text language: the former account for 44 percent of all lexical verbs and the latter for 41 percent.

In a next step, I turned my attention to the individual complementation subgroups and investigated them one by one, first with regard to general distributional characteristics and second with respect to particularities connected with the occurrence of some individual lexical verbs. Such particularities either originated in the interests and results of similar input studies or were based on aspects of the CSB data itself.

The investigation of intransitively used verbs revealed that within this complementation group the two most frequently occurring verbs of the CSB corpus – *go* and *come* – are found, if we leave aside the verb *say*. *Go* and *come* are frequently used as single- or multi-word verbs. Since both verbs are also highly frequent in maternal input data, their occurrence in the text language will only have a reassuring or strengthening impact on the development of child language in this case. My evaluation of the distributional characteristics of the verb *go* across various usage patterns, following Theakston et al.'s (2002) study, showed no clear preferences for one or the other pattern.

Within the group of monotransitively complemented verbs – the largest in the corpus – I again noted a preference for two verbs, *have*/*have got* and *see*, which occur relatively more frequently than all the other lexical verbs in this pattern. Monotransitively used verbs were also found to account for the biggest share of multi-

word verbs in the corpus. In this context I drew attention to the verb *look* as the one verb used most frequently together with a preposition (*at*, *for*, *after*). I argued that the high frequency of the monotransitive construction in the corpus can be attributed to the plurality of meanings expressed by it and pointed out that there also is considerable variation on the structural level. However, it remains unclear whether and to what extent this might cause learning difficulties. I concluded that, although generally most of the verbs found in this construction in the corpus are also common in spoken input, storybook input can still have a number of beneficial effects on a child's acquisition of verbs. In this connection, I discussed entrenchment and preemption, the possible expansion of a verb's linguistic representation and the acquisition of so far unknown verbs and their complementation patterns.

My hypothesis that children might benefit more from the regular reading of storybooks with regard to their learning of a verb's alternating between the intransitive and the monotransitive construction remained basically unconfirmed. The corpus analysis showed the usage of verbs in this context to be similarly lopsided as other input sources.

The outcome of the remaining two analyses can be summarised as follows: in both cases I found the "prototypical" verb, *i.e.* the verb that according to Goldberg (1995, 2006) best conveys the construction's meaning, to be the most common one: *put* occurs most frequently in the complex-transitive, *give* most often in the ditransitive pattern. But in both groups we also have verbs that are not usually referred to as highly frequent in the context of each construction. Within the CSB corpus *see* is often used in the complex-transitive construction, *tell* is common in the ditransitive. Thus, in case of the complex-transitive and ditransitive construction two parallel effects are imaginable: first of all, children repeatedly hear a verb that is commonly used within each of the constructions so that their linguistic representations of *put* and *give* could be strengthened. And secondly, they get to hear a second, less common verb frequently used in each construction, namely *see* and *tell*, which might expand their linguistic knowledge of either the constructions themselves or of the verbs in question.

I finished my investigation of full lexical verbs by pointing out several factors that are time and again mentioned in the literature when it comes to evaluating how children eventually move beyond their individual and restricted representations of

verbs. Against the background of the present chapter's findings I discussed some of these factors pointing out the apparent predominant role of frequency effects for acquisition.

7. Multiple class membership of verbs

7.1 Introduction

While the previous chapter was devoted to the general analysis of all lexical verbs in the CSB corpus, taking account of their overall occurrence and their complementation patterns, the current chapter will turn to two verbs in particular – *get* and *have* – and investigate their appearances in the corpus. Throughout the discussion of English lexical verbs in this study, it has been repeatedly pointed out that many of them can enter into different syntactic structures, with or without a change in meaning (compare Chapter 5). Since *get* and *have* are characterised by a remarkable flexibility when it comes to syntactic frames and functions in which they occur, I will pay special attention to these two verbs in the present chapter. Both *get* and *have* belong to the most frequently used verbs in the English language (e.g., Biber et al. 1999), as light verbs they are often reverted to by language users when nothing else comes to mind, they are part of many idioms (e.g., *to get the short end of the stick*, *to have a skeleton in the closet* or *to get/have something in the bag*), of fixed (e.g., *Have a good time!* or *Get well soon!*) and semi-fixed (e.g., *_never got around to_* or *Do you have the_ to/for_?*) sequences and of so-called "verb + noun"-constructions[123] (e.g., *to have an argument* for *to argue* or *to get a look at* for *to look at*). But does their versatility make them easy candidates for acquisition? And in how far is it exploited in the corpus? These are the two questions I intend to answer in the following subchapters.

7.2 The notion of multiple class membership

In Chapter 5, I introduced the seven basic English clause types as defined by Quirk et al. (1985: 53f). These are composed of the obligatory elements and reflect all their permissible combinations. Furthermore, it was stated that "the clause types are determined by the verb class to which the full verbs within the verb constituent belong" (ibid.: 720). So, for instance, the intransitive verb *to appear* requires no complementation whereas the monotransitive verb *to bore* requires a direct object for its meaning to be complete. As pointed out before, it is important to note, however, that

[123] Compare Brinton (1996) and Algeo (1995).

only the minority of English lexical verbs allows for a sole and stable classification as either intransitive or monotransitive (or any of the other transitivity classes). In fact, one should abstain from such phrasing altogether and rather go for the more appropriate phrasing of "intransitively-used", "monotransitively-used" etc. instead. In this way, it becomes clear that it is each instantiation of a verb *per se* that decides about its status as one or the other and, at the same time, it is taken account of the possibility that one verb may be used in different structures, all of which require different complementary elements. It is this feature of lexical verbs that Quirk et al. refer to as the "multiple class membership of verbs" (1985: 720ff). It may be recalled that verb classes (or verb types) in the Quirkian terminology comprise the four transitivity types discussed in the previous chapter plus copular verbs. Thus, what multiple class membership of verbs refers to is the idea "that a given verb can belong, in its various senses, to a number of different classes […], and hence enter into a number of different clause types" (Quirk et al. 1985: 720).[124]

7.3 Multiple class membership exemplified: *get*

Quirk et al. themselves call attention to the verb *get* as a particularly versatile lexical verb that can enter in all but one of the seven basic sentence types. They give the following examples (1985: 720):

SVO He'll get a surprise.
SVC He's getting angry.
SVA He got through the window.
SVOO He got her a splendid present.
SVOC He got his shoes and socks wet.
SVOA He got himself into trouble.

[124] Under the heading "Verbs with multiple patterns of complementation" Huddleston and Pullum (2002a) also devote a whole paragraph to this phenomenon (Chapter 4: 296-321); however, they are primarily concerned with the semantic differences that arise as a result of a verb's changing complementation patterns. In addition, they contemplate the effects on the semantic roles of the noun phrases surrounding the verb in the context of its varying complementation patterns. But neither *get* nor *have* are mentioned in their survey.

Thus, the only non-existent sentence structure is the *SV*-type where *to get* would have to be used intransitively without being followed by any type of complementing element.[125] In order to examine in how far the language sample assembled in the CSB corpus exploits the permissible usages of *get*, all instances of the verb used either as a passive auxiliary[126] or, in combination with a particle, as the phrasal verb *get up* had to be eliminated first.[127] The remaining 137 instances of *get* used as a full lexical verb are distributed over the six possible sentence types as follows:

Table 7.1: Total number of occurrences of *get* with regard to sentence types

Sentence type	SVO	SVC	SVA	SVOO	SVOC	SVOA
Number of instances	32	31	48	4	2	7

Note that there are six instances of *get to sleep* in the CSB corpus that are not included in Table 7.1; while Johansson and Oksefjell (1996: 61) deal with these in form of an extra category (*GET* + *to*-infinitive), they do not appear in the Quirkian listing of sentence types and were therefore excluded. In addition, there are seven instances of *get* in the corpus in which the verb is used in an idiomatic form: *get sick of* and *get tired of* each occur three times and *get rid of* occurs once. These remained omitted as well. The overall picture drawn from Table 6.1 is clear: with a total of 79 instances, *get* is most often used in either of the intransitive constructions (31 times complemented by a subject complement and 48 times complemented by an obligatory adverbial). The monotransitive usage accounts for the second-largest share (32 times a form of *get* is complemented by a direct object). As can be seen in Table 7.1 the remaining sentence types (SVOO, SVOC and SVOA) and degrees of transitivity (complex- and ditransitive usage) play only a minor role. *Get*, however, has been found to be among the very first verbs that English-speaking children start to extend to and use across different syntactic structures (Sethuraman and Goodman 2004: 85); yet children, above all, hear *get* used

[125] As Quirk et al. (1985: 722, footnote) point out, even this construction exists in some varieties of American English: "In informal (especially dialectal) AmE, *get* is used even as an intransitive verb (= 'leave at once') in Type *SV*: *She told him to get*."

[126] It should be noted that many grammarians refrain altogether from treating *get* as an auxiliary. Quirk et al. do not clearly state their opinions in this case, they once talk about "[the] passive auxiliaries: *be* and *get*" and next say that "*get* […] is not, by most syntactic criteria, an auxiliary at all" (1985: 160). Huddleston and Pullum, however, take a firm stand: for them, only *be* is an auxiliary (2005: 245). Compare also Chapter 7.

[127] In the passive construction, *get* does no longer function as a full lexical verb, whereas the combination in *get up* leads, on the one hand, to a meaning shift and, on the other hand, takes away the syntactic flexibility of *get* since *get up* is almost exclusively used intransitively.

in only three of the possible sentence types (SVA, SVC and SVO) and in two possible transitivity patterns (intransitive and monotransitive), respectively. The storybook input does not exploit all the potential constructions equally frequently and thus does not constitute a source of a confusingly – from the child's perspective – high number of different *get*-constructions for the young language learner. I will now consider the current corpus findings in comparison to two other studies.[128]

Biber et al. find that *get* in all of their four analysed registers ranges among the twelve most frequent lexical verbs (1999: 375) and, moreover, that *get* is the single most common lexical verb not just in "conversation" but in any one register (ibid.: 376). In line with Quirk et al. (1985), they argue that *get* is so common because "it is extremely versatile, being used with a wide range of meanings and grammatical patterns" (ibid.). However, the highly frequent use of *get* seems to be restricted to the spoken register with its occurrence in written language being noticeably smaller in number (compare Biber et al. 1999: 375; Figures 5.9-5.12). This becomes especially evident in the "news" and "academic prose" registers. Biber et al. (1999: 376) explain: "It is relatively rare in most written registers because many of its uses have strong casual overtones which are avoided by more careful writers of informational prose." Certainly, the texts upon which the current study is based do not fall under the heading "informational prose". Although they partly function as pedagogical material in that they often communicate either general human values or recurring and particular child-centred themes, children's storybooks are not very different from other works of fiction: they primarily offer an entertainment value. According to Biber et al.'s findings, the overall frequencies of *get* in "fiction" are also significantly lower, amounting to roughly a quarter of those found in "conversation" (1999: 375; Figures 5.9 and 5.10). But *get* still ranges among the five most frequently used lexical verbs in the "fiction" register and thus the current corpus findings, which show *get* to be the fourth most common lexical verb (after *go*, *come* and *have*) overall, can be regarded as being in line with what has been found for fictional writing in general.

[128] Huddleston and Pullum pay no special attention to *get*. Apart from its discussion in connection with the passive the verb is mostly mentioned in the sections on complex-transitives and -intransitives (2002a: 261, 264f) and on catenative verbs (ibid.: 1227-1229, 1243-1245). Since the definitions used by Huddleston and Pullum for these groups of verbs differ significantly from those applied in the current study (compare Chapter 5), their views on *get* will not be included in the current section.

In a next step, Biber et al. investigate the distribution of complementation patterns that exceptionally versatile verbs such as *get* accept. Unfortunately, the way in which they present their results in the *Longman Grammar of Written and Spoken English* (1999) does not allow for an in-depth comparison. What can be said, however, is that the instances of the verb *get* found in "fiction" predominantly occur in the monotransitive construction (sentence type SVO) followed by the intransitive SVA and SVC sentence types (Biber et al. 1999: 390; Table 5.9). Although the findings of the current study show a reverse distribution regarding these three sentence types – *get* is used most often intransitively in the SVA pattern – they are generally consistent with Biber et al.

Of greater interest is the study by Johansson and Oksefjell (1996). Taking up Quirk et al's (1985) continuous reference to the versatility of *get* the authors set out in the attempt to show the connections between the various uses of the verb. For this, they analyse all instances of *get* in three well-known corpora of both written and spoken English.[129] Their first two general findings are in compliance with Biber et al. (1999), namely that overall *get* is far more common in spoken than in written English and that, in writing, it is found mostly in fiction of less formal character (Johansson and Oksefjell 1996: 57f). A detailed analysis of the uses of *get* on the basis of the Quirkian scheme in sub-samples of the LOB and London-Lund Corpus again results in findings similar to those of Biber et al. and of the current analysis: in both corpus samples *get* primarily occurs in the monotransitive pattern, followed, in frequency, by the SVA and SVC constructions (Johansson and Oksefjell 1996: 62). In a next step, Johansson and Oksefjell (1996) try to develop a syntactic-semantic prototype[130] of *get* to which all the various *get*-constructions conform more or less strongly. To do so, they firstly compare uses of *get* to the verbs *have*, *have got*, *have got to* and *be* stating that, while *get* is "clearly not grammaticalized in the same sense as *HAVE* and *BE*", it nevertheless "deserves a place at the centre of grammar" (Johansson and Oksefjell 1996: 74f). Secondly, they look at the earliest recordings of the verb: these include the SVO, SVOO, SVOA and SVA construction which, as they go on to show, have several syntactic and

[129] The three corpora are the Brown Corpus (Francis and Kučera 1964) of printed American English, the Lancaster-Oslo/Bergen (LOB) Corpus (Johansson et al. 1978) of printed British English and the London-Lund Corpus (Svartvik 1990) containing British spoken English.

[130] Johansson and Oksefjell (1996) follow the definition of Aijmer (1987: 22): "The prototype can be regarded as a schema consisting of a set of grammatical and semantic properties."

semantic features in common (Johansson and Oksefjell 1996: 72). Subsequently, Johansson and Oksefjell deduce a prototype of *get*: It has an agentive subject and expresses the notions of change and causation (ibid.). The authors argue that, over time, some changes have occurred in the original patterns and new patterns have developed but that altogether all uses of *get* still show a clear relatedness (ibid.).

Interestingly, two of the most common patterns found in the current data, the monotransitive (SVO) and the intransitive with obligatory adverbial (SVA) patterns, correspond with the defined prototypical use.[131] The third most common pattern, the intransitive with complement (SVC) is distinguished from the prototype of *get* in that it does not have an agentive subject and has no causative feature (Johansson and Oksefjell 1996: 72). It is thus more similar to a copular verb. So in the storybook text input children find, above all, prototypical and closely related constructions of the verb *get*. If we assume that the structures of parental speech regarding the use and distribution of *get* are similar to the conversational corpora analysed by Biber et al. (1999) and Johansson and Oksefjell (1996), the same would also be true for children's spontaneously spoken language input. I suggest that my findings imply two conceivable schemes.

On the basis of the "verb-island hypothesis" (compare Chapter 2), one would propose that children acquire each of the *get*-constructions as individual constructions at an early stage and only later on form a more abstract, unified representation of the verb. The fact that the input seems to offer a relatively uniform and rather restricted set of *get*-constructions which, in addition, can be considered to be closely related (Johansson and Oksefjell 1996: 72) might function as a facilitating factor on the way to generalising beyond the individually acquired constructions. It was argued earlier that constructions are stored on the basis of both similarities in form and meaning and that children extract these commonalities between constructions in order to infer more abstract linguistic categories.[132] If this is the case, then the verb *get* with all its permissible syntactic patterns should pose an easy rather than a difficult candidate of acquisition exactly because its range of constructions is so closely related in both form and meaning.

Following Goldberg and others who claim that the acquisition of a prototypical and highly frequent instance of a construction facilitates the process of category

[131] This correspondence would also be found in the "fiction" parts of the other two studies.
[132] A detailed discussion of these assumptions can be found in Chapter 2.3.

formation (e.g., Goldberg 2006: 88) also leads to the suggestion that the acquisition of the verb *get* and its syntactic behaviour, as found in the investigated data, should not turn out to be particularly problematic for the child. Again, the dominating constructions in the input are closely related in form and meaning and could therefore be merged into an abstract representation comparatively easily. In addition, what children seem to hear most frequently are already the prototypical constructions of *get* (as outlined in Johansson and Oksefjell 1996). This should further ease the process of generalising beyond individual uses of the verb.

A look at the early output language produced by English-speaking children aged 2;0 to 4;0 confirms that the verb *get* is among the most frequently verbs used in the intransitive, mono- and ditransitive complementation patterns[133] and so it seems that the acquisition of multifaceted *get* does indeed not present the young language learner with particular difficulties. Both the intransitive and monotransitive construction are used to refer to a wide variety of scenes, as the discussion in Chapter 6 has shown. Based on the data compiled by Israel using a sample of seven English-speaking children from the CHILDES database, *get* is the most frequently occurring verb in the intransitive construction used in the sense of "cause to move" and the most frequent lexical verb in the simple transitive construction when depicting a scene of "having an object" (compare Tomasello 2003: 149ff; Tables 5.2 and 5.3).[134] Thus, children's early use of *get* in the simple transitive construction does not diverge significantly from the prototypical scene depicted by the simple transitive construction. With regard to the dative constructions Campbell and Tomasello (2001: 260f) found that in their data six out of seven children up to the age of 3;0 used *get* in both the double-object and the prepositional dative constructions. Overall, the verb is on top of the list (next to *give*, *make* and *show*) of the 25 most frequently used verbs in these constructions. However, their analyses revealed that "the children did not begin with the prototypical senses of the dative verbs" (ibid.: 261): *get* was mostly used in the sense of obtaining something.

[133] Note that no results concerning the use of *get* in the complex-transitive construction were found in the literature.

[134] For both constructions the tables given in Tomasello (2003: 150, 152) display the fifty most frequent verbs used by the children whose data Israel analysed. In each case the verbs are categorised into four groups according to the semantics of the scenes that they depict (e.g., for the simple transitive construction "having objects", "moving or transforming objects", "acting on objects" and "psychological activities").

All four instances of get used in the SVOO sentence type (double-object datives, exclusively) also describe scenes of obtaining (e.g., examples 1 and 2):

(1) "You'll have to **get** him a set of stilts," laughed Bernard's friends. (CB 13)

(2) Once Dad asked Teddy to **get** him a cup of water. (CB 67)

But as there are so very few instances of dative constructions containing *get* in the current data, it is impossible to make a general statement here.

In the present subsection, I demonstrated that the corpus findings regarding the verb *get* are in line with other studies of the syntactic behaviour of *get* in written speech and that the most frequently occurring constructions range around the prototypical uses of *get* both in form and meaning as defined by Johansson and Oksefjell (1996). I further made two tentative suggestions regarding possible implications of my findings for the acquisitional process and showed that *get* is generally among the earliest verbs produced in the intransitive, mono- and ditransitive construction. Surely, these need more serious examination based on other input and, more importantly, experimental studies in order to become more than purely theoretical assumptions.

As may have been noted, one form of *get* has so far been excluded from the discussion: its perfective form *have got*. Although both Biber et al. (1999) and Johansson and Oksefjell (1996) include *have got* in their discussions of *get*, I decided to treat it in line with its meaning aspects rather than its formal aspects, *i.e.* as an informal, mainly British English variant of stative *have*. Johansson and Oksefjell, quoting from Visser (1973: 2202), also state that *got* in the *have got* construction "is felt as a meaningless, empty addition" (1996: 65). In the current study, *have got* is therefore included in the discussion of *have*, another very versatile verb that I will turn to next.

7.4 Multiple class membership and syntactic variability: *have*

According to Biber et al.'s (1999: 429) data, *have* as a transitive main verb occurs as often as some of the most frequent lexical verbs in English (e.g., *say*, *get*, *go*, *know*, *think*, *see*, *make* etc.; 1999: 373). In the current study, *have* is the single most frequently used verb in the monotransitive complementation pattern. Among all lexical verbs, solely intransitive *come* and *see* occur even more often. Biber et al. go on stating that the main verb *have*, similar to *get*, "can be used with various meanings marking different kinds of logical relations" (ibid.). However, formally *have* differs from *get* in a

number of prominent ways. I will therefore, by way of exception, include a brief overview of the variations in form of *have* in the overall analysis of the syntactic patterns of the verb since they contribute significantly to the verb's complexity. But first of all, I will concentrate on the use of *have* as such in the CSB corpus.

a) Corpus findings: *have*

Both *get* and *have* belong to the class of lexical verbs as well as to the class of auxiliaries. Yet, while *get* strikingly more often functions as a full lexical verb (137 instances as opposed to 22 instances of *get* as an auxiliary in the passive construction), the corpus analysis reveals the opposite to be the case for *have*: it occurs more often in its auxiliary form than as a lexical verb in the CSB database (186 as opposed to 231 instances).[135] Table 7.2 shows all possible variants of the verb *have* found in the corpus and their distribution across the data:

Table 7.2: The distribution of *have* across its syntactic functions in the CSB corpus (total numbers)

Function	**main verb**		**modal idiom**	**semi-auxiliary**[136]		**auxiliary**
Number of instances	*have*	*have got*	*had better*	*have to*	*have got to*	*have*
	175	10	5	51	–	231

As can be seen in Table 7.2, in addition to its lexical and auxiliary functions *have* occurs also in form of the modal idiom *'d better* (the contracted form of *had better*; five instances) and the semi-auxiliary *have to* (51 instances). Furthermore, one rather more complex use of both *have* and *have got* was found in the data:

(3) "I **have** better things to do than eat nuts," sniffed the Crocodile. (CB 45)

(4) "We**'ve got** work to do and not much time." (CB 12)

Examples (3) and (4) elude clear categorisation as they neither fit into the SVO nor into the SVOC pattern. Quirk et al. in their detailed overview of complementation patterns

[135] Note that in the current study *have* is categorised as a full lexical verb and not, as suggested by Quirk et al. (1985: 735f), as a "middle verb" (see also Chapter 4).

[136] The notion "semi-auxiliary" was adopted from Quirk et al. (1985: 136ff) who surmise under this term "a set of verb idioms which express modal or aspectual meaning and which are introduced by one of the primary verbs" (ibid.: 143). According to the authors, the group of semi-auxiliaries is one with blurred boundaries (ibid.) and thus once more a case for gradience in grammar. Yet Huddleston and Pullum say the following of *have* in *have to*: "Note that in spite of its semantic similarity to ***must***, this ***have*** has none of the modal properties […]. There is therefore no case at all for including it in the syntactic class of modal auxiliaries" (2002a: 112; emphasis in the original). For them, *have* here functions as a catenative verb with a *to*-infinitival complement (ibid.: 111).

distinguish monotransitive "*to*-infinitive (+subject) as object" and complex-transitive "object + *to*-infinitive" (1985: 1171), yet neither one seems applicable to explain the syntactic structure of (3) and (4). Thus, these two instances of *have/have got* as well as the uses of *have* as part of a modal idiom and semi-auxiliary will remain excluded from any further discussion. Before moving on, let me say a few words regarding the differences between *have* and *have got*. The latter is a characteristically British English, informal variant, whereas the former is stylistically neutral and carries no variety characteristics. Formally, *have got* is usually only used in the present tense of *have*, simple *have* is used in all its inflectional forms. Finally, *have* may be interpreted either non-habitually or habitually, while the habitual reading is excluded in the case of *have got*.[137]

In contrast to *be*, which has two auxiliary functions (marking progressive aspect and passive voice), and *do* (emphatic function, *do*-support in negatives and interrogatives), *have* has only one auxiliary function: it combines with the *-ed* participle of lexical verbs as a marker of perfective aspect. At some point along the acquisitional path children have to learn about the correct provision of the auxiliary, especially since they tend to start off omitting a great number of necessary auxiliaries at the beginning. I will come back to this point when discussing formal aspects of *have* in section b).

Following the procedure in the previous chapter, I will now look more closely at the distribution of complementation patterns for lexical *have/have got*. The verb *have* is used mono- and complex-transitively, whereas *have got* occurs exclusively in the monotransitive complementation pattern. Neither verb is used either intransitively (syntactically impossible in Standard English) or in any of the dative constructions (syntactically possible). Table 7.3 gives the detailed information for both verbs:

Table 7.3: Distribution of *have/have got* across complementation patterns in the CSB corpus

complementation type	*have*	*have got*
MTR(NP)	152	9
MTR(CL)	3	1
CTR(+A)	10	–
CTR(+ADJ)	2	–
CTR(+CL)	8	–

Overall, *have/have got* is used most frequently in the SVO sentence type, *i.e.* monotransitively (165 instances or 89% of lexical *have/have got*). Table 7.3 clearly

[137] Compare Huddleston and Pullum (2002a: 112).

shows that there is one predominating construction type for both *have* and the few instances of *have got*: the monotransitive usage with *have/have got* complemented with a noun phrase as direct object (161 instances out of a total of 185 instances). Biber et al. offer no analysis of this kind, they simply state that "as a transitive main verb, *have* is as common as the most frequent lexical verbs in English" (1999: 429). Though this includes, according to their definition of "transitive", the monotransitive construction, it just as well comprises complex- and ditransitive usages.[138] Moreover, it remains unclear what kind of complementing elements occur frequently in these transitive complementation pattern(s) in Biber et al.'s data. The implication drawn from the current corpus analysis is straightforward, however: the input obtained through storybook reading contains a single high-frequency construction for *have/have got* that children could pick up on.

In some accounts of "light" or general purpose verbs (see Chapter 6) lexical *have* is included in this group of verbs (e.g., Ninio 1999; Pinker 1989). There are several points in favour of this: *have* is among the most frequent verbs in English (Biber et al. 1999: 429); like other general verbs *have* applies to a wide range of arguments and can therefore be used in a wide range of contexts (compare Goldberg 2006: 77); *have* occurs in a number of "lexical bundles" (e.g., *have a look*; compare Biber et al. 1999: 990ff) and enters into many "verb + noun phrase"-combinations (e.g., *have a go (at)* or *have the potential to*; see Biber et al. 1999: 1026ff).[139] Whether or not the generality of the semantics of *have* helps children with the acquisition of the verb remains a topic for further examination in the context of the ongoing discussion about light verbs which, as already pointed out in Chapter 6, is controversial in itself (e.g., Ninio 2005; Theakston et al. 2004, 2006).

The analysis of child output data blends well with the current findings in so far as that it reveals *have* to be among the most frequent verbs that appear in the transitive construction in children aged 2;0 to 4;0. Like *get* (and also *want*, *need*, *buy*, *keep*, *hold* and *use*), the verb is used to depict a scene of "having an object" (compare Tomasello

[138] When first introducing the topic of verb valences Biber et al. state: "Verbs in two- and three-place patterns with an O_d are transitive, with more elaborated names also employed for use in more specific patters […]" (1999: 141). So the notion of "transitive" only, when used in the *Longman Grammar*, remains a vague one.

[139] In Huddleston and Pullum we also find *have* included in the discussion of the features of light verbs (2002a: 290-296). The authors group *have* together with *take* claiming that there is a considerable overlap in the nouns both verbs take (ibid.: 295f).

2003: 150; Table 5.2). On the basis of what has been said about possible frequency effects in acquisition (compare Chapter 2) it could now be argued that the high type frequency of monotransitive *have* in the CSB data has a facilitory effect with regard to the acquisition of the constructional schema in question.[140] After integrating a number of studies with experimental evidence Goldberg (2006: 88) suggests: "the very frequent and early use of one verb in a pattern facilitates the learning of the semantics of that pattern." So if children are exposed to the frequent reading of storybooks at a very early age (before they actually start producing linguistic output), the repeated hearing of the monotransitive construction with *have* can provide them with a first highly-frequent and semantically relatively easy example of this construction type. After all, lexical *have* is the single most frequent verb used in the monotransitive pattern throughout the CSB corpus. Although it may not reflect the prototypical scene depicted by the simple transitive construction (*i.e.*, two participants, one somehow acting on the other), it nevertheless comes close to it (*i.e.*, two participants, one is in possession of the other) and "may well provide a highly relevant cognitive anchor, serving to organize memory and reasoning about other related types" (Goldberg 2006: 89)[141]. While Israel's data altogether contains eight highly frequent verbs used in the transitive construction to depict a "having objects"-scene, it must be born in mind, as repeatedly pointed out before, that it is unclear "to what extent young children understand their utterances of this type [*i.e.* the simple transitive] as exemplars of the same syntactic construction" (Tomasello 2003: 150; compare also Chapter 6 in the current study). They must first gain an understanding of the constructional meaning, *i.e.* of the construction as such, before they are ready to take the next step towards generalising beyond their individually learned verb schemata. And this is where the high-frequency effects of monotransitively used *have* could come in: children, who already have a good grasp of the meaning of the simple transitive construction in connection with *have* – through their early and highly frequent experience of it in the storybook context – could draw upon this knowledge in order to figure out the meaning of the very same verb-argument

[140] For the definition of "type" compare Diessel (2004: 30): "[…] a type can be defined as a construction that instantiates a particular constructional schema."

[141] Note that Goldberg stresses the fact "that it is *not necessary* for there to be a single verb with frequency far greater than other verbs for successful learning to take place" (2006: 89; emphasis in the original) as naturalistic data is often not made up in this way and yet the correlations between form and meaning are learned. Significantly, Goldberg gives exactly the transitive construction as an example for a construction that is most likely learned on the basis of several distinct verbs.

structure when used with other lexical verbs and, eventually, the construction as such on a more general level. While this may seem a far-reaching suggestion indeed (compare also footnote 16), it must be born in mind that at this stage we simply do not know enough about the influence of the input language as to rule it out completely.

When it comes to the acquisition of the lexical verb *have* itself, *i.e.* of the constructional paradigm in which it may occur the dominance of one single construction in the input may appear rather perturbing. The question is: will children actually pick up on any of the other uses (e.g., the complex-transitive and prepositional dative constructions), if monotransitive *have* forges ahead like that? Output data shows that they do (e.g., Ninio 1999; Tomasello 2003). It may well be that in child language *have* is first related with the simple transitive construction (only), with other usages lagging somewhat behind. But this should not be underrated for two reasons: first of all, once they manage the monotransitive use of *have*, children have unmistakably picked up on the most common and most frequent constructional pattern of the verb (compare Biber et al. 1999: 429). And secondly, even at this "simple transitive (only)" stage the young language user can be said to demonstrate a fairly general representation of the verb, provided that he or she uses *have* with various meanings marking many different kinds of logical relations (e.g., "family connection" or "food consumption"; ibid.) instead of just the "having objects"-scene.[142] Children who make use of monotransitive *have* to express various semantic relationships show that they have internalised the idea that "particular syntactic frames are associated with a family of related meanings" (Goldberg 1995: 66). Their command of the semantically versatile monotransitive *have*-pattern could serve as a starting point for learning other usages shortly afterwards (or even simultaneously). As with many other verbs, a correlation between the meaning of *have* in this particular constructional pattern and the other patterns in which it occurs will possibly only be established at some later stage.

Before entering into a discussion of some formal aspects of *have* I will briefly turn my attention to another commonly mentioned feature of the verb, namely its productivity "in combining with a following noun phrase to form relatively idiomatic expressions" (Biber et al. 1999: 1026). The list provided by Biber et al. ("selected noun

[142] Although the present study is in general not concerned with the different semantics of verb-argument structures, a quick glance at the 185 instances of *have/have got* in the CSB corpus showed that we find all three above-mentioned meanings of *have/have got* in the data as well.

phrases combining with *have* in conversation or fiction") comprises more than 20 noun phrases, e.g., *have a baby*, *have no choice*, *have dinner*, *have no idea* etc., and so in no way ranks behind other accounts of this well-known characteristic of *have* (e.g., Alexander 1988; Brinton 1996; Huddleston and Pullum 2002a). A look at the CSB corpus data shows that it certainly contains some of these "relatively idiomatic expressions", such as *have a bath* (three instances), *have good ideas/an idea/ a good idea* (three instances) or *have (two) children* (two instances). However, no single "verb + noun phrase combination" was found to stand out as a result of noticeably high frequency values.

b) Formal aspects of the verb *have*

Like the other primary verbs *be* and *do*, the verb *have* can function both as a main verb and as an auxiliary. In both functions, a whole range of forms is available to the speaker or writer of English. These are displayed in Table 7.4:[143]

Table 7.4: Forms of *have*

Form	non-negative	uncontracted negative	contracted negative
base	*have*, *'ve*	*have not*, *'ve not*	*haven't*
-s form	*has*, *'s*	*had not*, *'s not*	*hasn't*
past	*had*, *'d*	*had not*, *'d not*	*hadn't*
-ing form	*having*	*not having*	
-ed participle	*had*		

As can be seen in Table 7.4, the verb *have* has a number of contracted negative and non-negative forms defined by Quirk et al. as "phonologically reduced or simplified forms which are institutionalized in both speech and writing" (1985: 123). While in formal writing the use of the uncontracted forms is usually preferred, informal writing as found in children's storybooks or other works of fiction often makes ample use of the contracted forms shown in Table 7.4. Biber et al. (1999: 1129) find – for main and auxiliary functions combined – roughly 10% of the verb *have* in the register "fiction" to be contracted. For two reasons one might expect the language use in storybooks to be, in this respect, closer to spoken language as well: on the one hand, fictional writing in general habitually contains a large portion of spoken discourse; on the other hand, what might also come into play here is the fact that storybooks are written to be read aloud,

[143] Table 7.4 is based on Quirk et al. (1985: 131; *Table* 3.33). Slight adaptations were made for current purposes.

i.e. the boundaries between written and spoken language become clearly blurred in this case and it could be argued that storybooks enter, albeit only in the broadest sense, the realm of the spoken language register. However, not a single contracted form of *have* – neither used as a main verb nor used as an auxiliary – occurs in the CSB database. Although this may seem rather far-reaching, below the line it means that the language found in storybooks might be of greater assistance to the acquisitional process of English auxiliaries than spoken input. It could help sharpening the child's ear, first of all, for the fact that there are structures that require the provision of the auxiliary and, secondly, for which types of syntactic structures do so. English speaking children have been found to "pass through a stage in development when they produce both finite sentences containing an auxiliary (*she is sleeping*) and nonfinite sentences where the auxiliary is omitted (*she sleeping*)" (Theakston et al. 2005: 249). In order to shed light on the patterns of use and non-use and to evaluate possible explanations for auxiliary omission, Theakston et al. (2005) analyse the language of eleven children between the ages of two and three years[144] regarding the provision or omission of both *be* and *have* as auxiliaries. They also look at the mothers' data with regard to all exemplars of auxiliary *be* and *have*. A first finding is that, overall, the children omit auxiliaries approximately 65% of the time; and despite an increase of auxiliary provision throughout the observed time span, the children still omit the auxiliaries approximately 40% of the time at the end of the studied period (Theakston et al. 2005: 257). A second finding is that, with the exception of the pronouns *I* and *you*, the frequency-driven learning hypothesis can be applied to explain children's acquisition of individual subject+auxiliary combinations and their provision of the auxiliaries in question: "High-frequency, fully specified subject+auxiliary combinations in the input that were acquired early by the children tended to show higher levels of auxiliary provision in the children's speech" (ibid.: 269). So it can be said that input frequencies, at least to some extent, seem to play a role in the acquisition of auxiliary syntax as well. Interestingly, all the examples Theakston et al. (2005) give of either the children or the mothers' speech are of the contracted type. The authors make no reference to this fact and, considering the conversational setting in which their recordings took place, for them it

[144] "The children were audio-taped in their homes for an hour on two separate occasions in every three-week-period for one year" (Theakston et al. 2005: 256).

is probably no distinctive feature of their data.[145] However, it is possible that a more salient provision of the auxiliary *have* as found in the CSB corpus could advance children's developing understanding of auxiliary syntax for this verb. It has been shown in other areas of first language acquisition research that the salience of the form or word in question is one important factor in the acquisitional process (e.g., Fisher and Tokura 1996; Gagarina 2005; Lempert 1990). However, bearing in mind the role of the reader who is eventually interconnected between the written text and the child, whether or not a child profits from the prominence of uncontracted auxiliary forms found in storybooks to a large extent depends on him or her, *i.e.* on whether he or she opts for phonologically reduced forms when reading aloud or sticks to the uncontracted variants.

Table 7.4 hints at another formal phenomenon of the verb *have*, namely that there are various possibilities of negation. When functioning as an auxiliary, these include the following three variants: *have/has not*, *haven't/hasn't*, *'ve/'s not* for present tense and *had not*, *hadn't*, *'d not* for past tense, respectively. For *have* as a transitive main verb, there also exists, as Biber et al. put it, "a bewildering number of possible negative forms" (1999: 160). The five main types[146] are displayed in Table 7.5:

Table 7.5: Main types of negation for transitive *have*

Negation type	uncontracted form	contracted form
not-negation, lexical verb construction	e.g., *do not have*	e.g., *doesn't have*
not-negation, auxiliary-like construction	e.g., *had not*	e.g., *haven't*
not-negation, *have got*	e.g., *have not got*	e.g., *haven't got*
no-negation, *have*	e.g., *had no*	–
no-negation, *(have) got*	e.g., *has got no*	e.g., *I've got no*

In a similar, yet somewhat less extensive manner, Huddleston and Pullum address this point when discussing the semantics of *have* stating that: "While dynamic ***have*** [describing events] is invariably a lexical verb, stative ***have*** [expressing, above all, possession] can behave as either a lexical verb or, in some varieties, an auxiliary" (2002a: 112; emphasis in the original). Based on their corpus studies, Biber et al. (1999: 161, Table 3.7) show for the "British Fiction"-register that the *no*-negation type is dominant if lexical *have* is followed by the indefinite article or an *any*-form, whereas, if

[145] Biber et al. (1999: 1129) state that verb contractions are indeed most likely to occur in conversations (here they make up a share of 55% for the verb *have*).
[146] Biber et al. (1999: 160f) differentiate between the five types shown in Table 7.3.

followed by the definite article, negated lexical *have* is most often found in the auxiliary-like construction. The analysis of the CSB corpus results in a different picture: in the data lexical *have* is only once negated according to the *no*-negation type (examples 5 and 6 below) and mainly negated by the operator *do+not* in the lexical verb construction as in (7) to (9):

(5) The place was small and **had no** walls. (CB 67)

(6) They **have no** clothes on. (CB 30)

(7) He **doesn't have** a key! (CB 48)

(8) "They **don't have** dinosaurs anymore." (CB 63)

(9) People **didn't have** dreams like that in those days. (CB 69)

Interesting in this respect is also the aforementioned example (2), repeated below, as it not only evades clear classification with regard to the verb complementation but also displays a peculiar kind of negation:

(2) "We**'ve got** work to do and **not** much time." (CB 12)

The typical order of the syntactic elements in a negated *have/have got*-sentence is disturbed here. Neither Biber et al.'s *not*-negation type nor the *no*-negation type seems fitting when we look at (2). Both structures are impossible due to the combination of two verb complementing elements, one affirmative and one negative, coordinated by *and*. To allow for the first negation type to work the verb would have had to be repeated in the second part of the sentence:

(2') "We've got work to do and **haven't got** much time."

The second negation type would change the sentence semantically:

(2'') "We've got work to do and **have no** time."

While this is a very fastidious observation of just one sentence out of many others, it is included here for three reasons. Firstly, it serves to sustain the awareness of all the little syntactic peculiarities a language-learning child – much like an adult second language learner – faces. Secondly, it once again shows that any kind of grammatical categorisation (in this case the negation types for *have/have got*) can only ever be gradient, but not conclusive. Ultimately, it is a reminder of how the grammatical description of language and language in use often diverge.

All in all, affirmative forms of both lexical and auxiliary *have* (160 out of 175 instances and 222 out of 231 instances, respectively) predominate. While the various types of negation of *have* certainly add to the formal complexity of the verb, it has so far not been investigated whether or not they pose a problem in the acquisition of English; Theakston et al. (2005) also make no reference to negation. In any case, the negated forms in the CSB corpus are so small in number that they could not possibly have any effects on the acquisitional process despite their almost uniform impression of appearance.

Closely connected to the variation in the negation patterns of *have/have got* is the aspect of question formation. Again, there are several possible question forms. Following their typing of negation forms Biber et al. (1999: 215) talk of the following three main types: the lexical verb construction (10), the auxiliary verb construction (11) and the *have got* type(12).

(10) "**Do** you **have** food with little umbrellas on it?" she asked. (CB 02)

(11) **Have** you any idea what you've done […]? (Biber et al. 1999: 215)

(12) **Have** you **got** a cigarette, Jim? (ibid.)

Solely the lexical verb construction occurs in the CSB corpus and with six instances only even that one is rare. It is therefore impossible to make any clear statement regarding the verbs *have* and *have got* and their usage in different question types in the texts.

What can be said, by way of summarising, about the formal aspects of the verb *have* is that both the variation in its negation and question formation types and the availability of different contracted forms surely add to the verb's complexity and its special status in English grammar. However, it is not yet clear if any of these aspects affect child language acquisition and, if they do, to what degree or in what respect.

c) *Have*: … (children) a lot to put up with?

The careful consideration of *have* in the previous sections brought forward a number of characteristics of the verb that could – at least theoretically and from the adult language user's perspective – prove problematic for children acquiring English. Formally, contracted and uncontracted forms of *have* exist side by side and, what is more, negation and question formation permit constructional alternatives. Functionally, both

lexical and, to some extent, also auxiliary *have* were discussed. For lexical *have* one pervasive complementation pattern was detected: the monotransitive where *have* is followed by a noun phrase. This appears to be the most common use of the verb generally (compare Biber et al. 1999: 429) and so the corpus data does not break ranks in this respect. It is also the pattern children have been found to produce early on (compare Tomasello 2003: 150ff), possibly due to its highly frequent occurrence in input language. So presumably lexical *have* does not pose a difficult unit of acquisition, whereas the discussion in c) revealed that the same can apparently not be said of auxiliary *have* (and, for that matter, *be*). Rather, children tend to have difficulties with the correct and consistent provision of the auxiliary for quite some time along the acquisitional path. On the one hand, it might be that children still lack the cognitive understanding of the role of aspectual *have*, but, on the other hand, they may simply not regard it as an "important enough" linguistic feature at this stage: "The nature of the lexicon is determined not by structural principles which decide whether an item is simple enough to be stored, but by the individual's priorities in handling real language input" (Wray 2002: 267f). Supposedly, contracted and phonologically reduced forms of *have* are predominant in spoken input and it is likely that children, therefore, do not assign sufficient significance to the auxiliary early on. As suggested above, the more salient occurrence of the uncontracted forms of auxiliary *have* in the storybook texts could thus be helpful here – provided that the reader presents them as such when reading aloud to the child.

To my knowledge, no attempts have been made so far to unify the observations regarding children's comprehension and production of both lexical and auxiliary *have*. Based on some of the principal assumptions of the constructivist/usage-based framework I suggest that it is most likely the case that children operate with individual entries on the level of their lexica for the two functionally different usages of *have* even beyond the early "verb-island stage". According to Wray's model of formulaicity in language acquisition it is only during the second phase of the child's longer term development that he or she shows strong tendencies towards analyticity in all aspects of language use (2002: 132-135). With this phase lasting several years (approximately from age 2;0 to 8;0) it may well be that the child only later on consciously develops an awareness of the two functional variants of *have*, most probably based also on

beginning literacy and formal education during this phase (ibid.). However, due to the assumed simultaneous storage of linguistic items of various sorts in general – highly abstract constructional schemas, low-level formulas, prefabricated chunks and words coexist in the mental lexicon (Diessel 2004: 22; Wray 2002: 267f) – the linguistic system works just as well before this point of awareness is reached. Doubtlessly, only the analyses of real language data as well as experimental studies can evaluate this idea and shed light on the question that preceded it.

7.5 Summary

The present chapter has placed the focus on two individual English lexical verbs that are characterised by an extraordinary ample versatility concerning their use in different syntactic constructions. This singular focus on *get* and *have* made it possible to examine the varying usage of these verbs in greater detail and discuss potential difficulties regarding the acquisition of these verbs which might arise from their multifacetedness.

I first concentrated on the lexical uses of *get*. The analysis of the CSB corpus revealed that the verb is primarily used in two complementation patterns, namely the intransitively (sentence types SVA and SVC) and the monotransitively (SVO), throughout my data. A comparison with Biber et al. (1999) showed that the current findings are consistent with other data in that *get* is a generally frequent verb (above all in spoken language, but also in the written register "fiction") and is most often used mono- or intransitively. Following Johansson and Oksefjell's (1996) description of a semantic prototype of *get* and the relatively close relationship between most of the verb's constructional patterns, I concluded that the verb *get* does not pose particular difficulties in language acquisition. Based on both the "verb-island" and the "(prototype-)frequency" hypothesis, I subsequently argued how children could benefit from the relatively unified occurrence of *get* (mostly in its semantically prototypical uses) in the storybook texts and demonstrated how the acquisition process of the different *get*-constructions might be facilitated due to the close relation in form and meaning that exists between them. A look at child output data (Tomasello 2003) confirmed that *get* is indeed among children's earliest used verbs.

I then shifted the focus to a detailed analysis of *have* presenting the verb's occurrence in the CSB corpus on several different levels. With regard to lexical *have*

one predominant complementation type was found: the monotransitive (verb + noun phrase) construction. A comparison with child output data showed that (semantically) varying uses of monotransitive *have* also occur early in child language. In this context, I outlined how *have* as the single most frequent verb in the monotransitive construction in my data could contribute to children's acquisition of the meaning of this construction type. Furthermore, I suggested that the early familiarisation with and learning of monotransitive *have* is also a decisive step for the acquisition of the lexical verb as such. The following discussion of some important formal aspects of *have* included the remarkable number of different contracted and uncontracted forms and syntactic possibilities that language users have at their disposal here. Since neither the corpus findings nor existing studies allow for a statement on possible problems regarding the acquisition of the various negated forms or question formation types, I concentrated my discussion in this context on the suggestion that the occurrence of exclusively uncontracted forms of auxiliary *have* in my data might reduce children's seemingly unawareness of the function and importance of this grammatical marker.

In sum, it can be said that the multiple class membership of the two verbs as described above in neither case has been found to be connected with particular acquisition problems. One might even go as far as to claim that the usage and features of both verbs – despite their functional, formal and syntactic versatility – offer certain advantageous factors for young language learners. These are tied, above all, to the highly frequent occurrence of both verbs in relatively "un-complex" complementation patterns and to the system of closely related constructional patterns that I described for both verbs.

8. The use and distribution of passives and modals in the CSB corpus

8.1 Passives and modal verbs: Difficult units of acquisition or a lack of adequate input?

In Chapter 6, I analysed in detail the distribution of the four general complementation patterns of full lexical verbs that are found in the seven major clause types defined by Quirk et al. Rather than devoting separate analyses to passive sentences, the authors – based on the concept of systematic correspondences (1985: 57ff) – included them in their general investigations of verb complementation. The reason for granting an individual chapter to the study of passive constructions arises mainly from the present work's connection to first language acquisition. Researchers in this field, generativists as well as constructivists, are still left with many open questions regarding the development of passives in child language. While everybody agrees that passive constructions occur late in English speaking children's output, different arguments are given as to why this is the case. In line with those who adopt a usage-based approach to language acquisition, I will analyse the passive constructions found in the CSB corpus and argue that it might in large part be a lack of passives in input language that are responsible for children's late comprehension and production of passive constructions.

The second type of constructions to be investigated in this chapter, namely modal verb constructions, is linked to the passives in that they as well have been found to be acquired not only late along the developmental trajectory, but also over a period of years. While both constructions can be labelled as "complex verb phrases", only the passives are usually considered marked constructions (as opposed to unmarked active constructions). Nevertheless, the acquisition of the modal auxiliaries with all their multifaceted meaning nuances seems to be at least as difficult as that of passive constructions, if not even more so, and researchers here are still as much in the dark regarding the acquisitional process and factors that might constrain it. Several attempts have been made, one or the other hypothesis formulated, yet similar to the "passive case" it is still not clear whether cognitive constraints or input structures should be held responsible for the late occurrence of in particular some of the modal meanings. The analysis of the modal auxiliaries in my data will allow me to comment on both the

distribution of the different modal auxiliaries and of the types of modality they convey in children's storybooks.

Furthermore, for both constructions, I will draw attention to one hypothesis found in the literature that seems particularly interesting against the background of the current study. Thus, my analysis of passives terminates with an evaluation of "constructional grounding", whereas that of modal auxiliaries will be followed by a discussion of the idea of epistemic phrases.

8.2 Passives

8.2.1 The passive construction(s)

When sentences undergo the process of passivisation, the grammatical functions found in active sentences are reorganised. The active subject becomes the passive agent and the active direct object becomes the passive subject. Optionally, a prepositional phrase (the agent *by*-phrase) may be added to the passive sentence to introduce the agent. Figure 8.1 shows an active-passive correspondence for a monotransitive verb complemented with a noun phrase as direct object (see Quirk et al. 1985: 160):

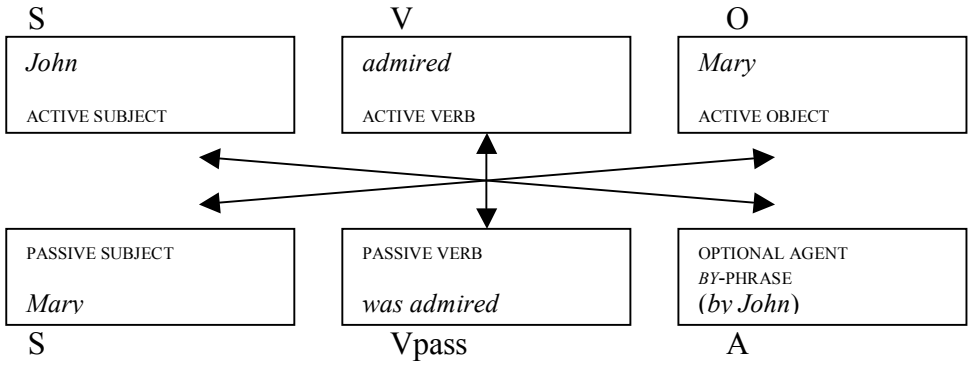

Figure 8.1: The active-passive correspondence

According to Goldberg's list of examples of constructions found in English, the passive ranges among the longest and most complex constructions (2006: 5; Table 1.1). The whole purpose of the construction lies in a shift of the information structure of a sentence or utterance. Active and passive sentences allow two different views of one and the same action: if someone chooses to talk about a particular act in the passive voice, he or she focuses on the person or object that is acted upon. So the alternation between the active and the passive voice involves a change in perspective from the agent of a transitive action (*John*) to the patient (*Mary*) and what happened to it (here:

act of admiration). This is the first thing the young language learner has to figure out. To further complicate matters regarding the correct use of a passive construction an agent *by*-phrase can be added optionally to a phrase in order to move the attention away from the actee to the actor. However, it is frequently omitted unless the speaker intends to specially stress the agent. The provision or omission of the *by*-phrase leads to a first distinction between passive constructions in the literature: passives lacking the *by*-phrase are commonly referred to as "short" (or "truncated")[147] passives, whereas those including the *by*-phrase are called "long" (or "full") passives (Guasti 2002: 251).

A further distinction within the passive constructions is made between adjectival and verbal passives. The verb phrase of a passive sentence in its prototypical form consists of a form of the auxiliary *be* followed by the past participle of the main verb. To talk of a prototype, however, once again conceals the inherent complexity of the construction. "Passive constructions form a fuzzy category, grading into *be* + predicative adjectives with stative meaning" (Biber et al. 1999: 475). That is to say, such a "prototypical" verb phrase very often permits an ambiguous reading of short passives as example (1) illustrates:

(1) The door **was closed**.

(1) can refer to the state of the door's being closed (stative reading → adjectival passive) or to the event of the door's being closed (eventive reading → verbal passive). Some participle forms (e.g., *delighted*, *excited*) are clearly adjectival, whereas others are borderline cases (*frozen*, *broken*) (Biber et al. 1999: 476) which, depending on the context, can be interpreted as either stative or eventive.

Thirdly, passive constructions are distinguished on the basis of the verb that occurs in the auxiliary position. As an alternative for *be*, a form of (auxiliary) *get* is sometimes used in the passive construction. This *get*-passive, however, is mostly restricted to informal English and is hardly ever found in long passives (see Quirk et al. 1985: 161). An analysis of the *get*-passive construction on a purely syntactic level suggests that the function of *get* here is rather that of a resulting copula than that of an auxiliary with the participle functioning as a complement.[148] Under this view a sentence

[147] E.g., Freidin (1975: 386).
[148] Compare also Huddleston and Pullum (2005: 245; emphases in the original): "***Be*** is an auxiliary verb, but ***get*** isn't. In the negative and interrogative, therefore, ***get***-passives require the dummy auxiliary ***do*** […]."

like *I'm getting really excited* is seen as being syntactically equivalent to *I am really excited*. Quirk et al. therefore refer to the *get*-passive constructions (or those formed using any other "resulting" copular verb such as, for example, *become* or *grow*) as "pseudo-passives" (1985: 161). Instances in which "current" copular verbs like, e.g., *be*, *feel* or *look* combine with participles that clearly show adjectival values also fall into this group of pseudo-passives, since, in terms of meaning, they rather express a resultant state than an ongoing action (ibid.: 169f). Quirk et al. further differentiate between what they call "central passives" and "semi-passives" (1985: 167ff). Whereas the members of the former group are characterised by a direct active-passive relation – either with or without the agent expressed in a *by*-phrase – the members of the latter show both verbal and adjectival properties and more often than not are not accompanied by a *by*-phrase.

Let me point out, though, that, whereas the main analytical part of this study principally drew upon the Quirkian framework, for the purpose of this particular sub-chapter on passives a differing definition is adopted. In what follows, I will treat the *get*-passive (and similar constructions) as one member of a whole family of related passive constructions in English. Further members besides the *be*- and the *get*-passive are what has just been described as semi-passives and constructions in which the past participle occurs in combination with other verbs (e.g., *make*, *want*, *have*, *keep*, *need*, among others). In particular, the reviewing of available studies that investigate children's developing use and understanding of the passive construction(s) made me opt for such a wider definition which seems favourable when discussing the possible mechanisms involved in the acquisition process of this complex family of constructions.

Having introduced some of the basic aspects of passivisation in English, I now turn to a detailed description of my data which I will subsequently integrate with a discussion of relevant findings in language acquisition research (8.2.3).

8.2.2 The corpus findings

Table 8.1 shows the distribution of the various related English passive constructions as found in the CSB corpus. The notion PASSIVE here includes all clearly verbal *be*-passives, both with and without an agent *by*-phrase[149], BE + adj./part. surmises all instances where the *-ed*-form could be either an adjective or a participle, OTHERS +

[149] Only four full passives (including the *by*-phrase) were found altogether.

adj./part. groups together those passive constructions that contain a form of the verbs *feel* or *look* (instead of *be*) and *become* (instead of *get*), respectively, and the notion NON-FINITE PAS refers to all non-finite constructions.[150] The categorisation in Table 8.1 further specifies whether a participle in a given passive construction can be clearly interpreted as stative in meaning (adjectival passive; adj.) or whether it allows for both the stative and the eventive (verbal passive) reading (equivocal; equ.). Following Israel et al. (2000: 113), participles occurring in *get*-passive constructions were uniformly coded as equivocal.[151]

Table 8.1: The distribution of passives in the CSB corpus (total numbers)

	PASSIVE	GET	BE + adj./part.	OTHERS* + adj./part.	NON-FINITE PAS
tokens	67	22	69	12	47
	–	(equivocal)	(47 adj./22 equ.)	(8 adj./4 equ.)	–
types	54	14	35	8	34

While 5,479 instances out of all the marked verb forms (9,973) in the corpus are full lexical verbs, only a minuscule part of these, 67 instances (1%), are used in the unambiguously verbal, mostly short *be*-passive construction.[152] Here, both *leave* and the prepositional verb *look after* are passivised twice; only two other verbs are used more than twice: *call* (8) and *see* (4). Against the background of child language acquisition, this repeated use of the non-actional verb *see* may appear interesting since children have been found to use many more actional in their early passives than non-actional verbs (compare 8.2.3 below). Yet overall non-actional verbs are certainly in the minority here: only three other non-actional verbs are found (*hear*, *love*, *mean*). With 69 instances altogether the "*be* + adj./part."-construction occurs equally frequently. Two points are of interest in this context: first, for about one third of them the participle forms are marked as "equivocal", that is they could either be read as eventive or stative. This leaves a considerable interpretation scope for the reader or listener who will have to decide on the basis of the context which one of the interpretations is more suitable. It is

[150] Note that the last two constructional variants of the passive are only mentioned here and included in Table 7.1 for the sake of completeness, but they will not form part of any further discussion.

[151] While the construction as a whole typically denotes a change of state (e.g., in *He had to get dressed quickly if* […] – CB 53), the predicate itself is usually stative in meaning. Due to this combination of the stative-eventive reading *get*-constructions might function as a bridge between these two different semantic contexts (compare Israel et al. 2000: 113; see also the discussion of "constructional grounding" in 8.2.4 below).

[152] A complete list of all lexical verbs used in the *be*-passive construction together with their frequencies of occurrence is provided in Appendix II, 14); Appendix II, 15) lists those lexical verbs that are used in the *get*-passive construction.

not clear, though, whether a child's online processing abilities at this stage allow for such interpretation steps. According to Horgan (1978: 68), "the category stative – referring to a state of affairs rather than to an action, event or process – may be broader for children than for adults". Farwell (1976) goes as far as claiming "that an action and its resultant state are undifferentiated for the young child: the same word can represent both the action and the state"[153]. Why such "dubious" cases might nevertheless play an important role in the acquisition of the passive will be further discussed in 8.2.4 below. A second point of interest is the distribution of different adjectives and lexical verbs (or participles thereof) across this type of passive construction. The figures in Table 8.1 show that, in comparison to the full passive construction, fewer different lexemes occur – only half as many types as tokens were found – yet a closer look at the data reveals that it is mainly the univocal adjectives that come up repeatedly while there is greater diversity among the "adjective or participle"-cases. Together, these findings make it as good as impossible to argue in favour of any facilitory frequency effects with regard to the passive constructions found in the CSB corpus.

An analysis of the storybook data on the individual text level restricts the above-mentioned findings even more since it shows how unevenly the passive voice is used across the texts. Only 31 texts contain any instance of a passive construction with eight of these using the *be*-passive more than three times (range between three and six instances). Due also to the high variety of lexical verbs that instantiates the *be*-passive construction in general, it thus remains highly questionable, if not totally unlikely, whether such a small number of passivised verbs could actually contribute to children's understanding and acquisition of the passive constructions at all. In relation to all the verb forms in the corpus, verbs used in the passive voice make up only 0.7%. Apart from the usage of some of the so-called "intermediates" (e.g., marginal modals [0.1%], modal idioms [0.1%], catenatives [0.4%] and semi-auxiliaries [1%]) no other construction type occurs less frequently in the data (compare modal verbs: 7%), especially no other construction type which directly involves a full lexical verb. Thus, the picture in storybook texts seems no different from the natural language input children otherwise experience: passive constructions are an exception in the corpus data as well.

[153] Quoted from Horgan (1978: 68).

If compared to the findings drawn from other corpus studies, however, the distribution of passives as described for the storybook context should not be interpreted as unusual. For instance, Biber et al. in their extensive corpus study come to similar results: while the registers "academic prose" and "news" show proportionally significant use of the passive constructions, its use is rare in "conversation" and "fiction" (1999: 476f), the two relevant groups for this study. Thus neither parental speech (e.g., Brooks and Tomasello 1999; Gordon and Chafetz 1990) nor the language found in children's storybooks "behaves" oddly. Biber et al. describe the *get*-passive as "generally rare and restricted primarily to conversation" (ibid.: 481) so that, again, the findings in the CSB corpus (22 instances of the *get*-construction) are not surprising in any way.

8.2.3 Acquisition of the passive construction(s) in English

Although passivisation has been of much interest in other fields of linguistics, the number of input as well as experimental studies on the acquisition of the passive construction(s) is still relatively small. With comprehension and imitation tasks dominating this research area early on, probable explanations for children's acquisition of the passive voice remained, at best, fragmentary. It is only since the late 1970s that some more comprehensive studies, including elicitation tasks and the investigation of naturalistic data, have produced some valuable insights. The more general findings can be summarised as follows:

(a) Passives based on actional verbs are better comprehended and more easily produced than passives based on nonactional verbs.

(b) *By*-phrases tend to be omitted.

(c) Passives report after-the-fact observations about states.

(d) Adjectival passives appear earlier than verbal passives […] (Guasti 2002: 252).

Based on these observations it has been claimed that children do not attain full mastery of the passive voice until at least 5;0 to 6;0 years of age (ibid.).[154] The phenomenon referred to in (a) was first accounted for by Maratsos et al. (1985) and has since then

[154] Interestingly, the listed findings as well as the late acquisition age are often found in studies and literature based on generative grammar (e.g., Fox and Grodzinsky 1998; Fox et al. 1995; Guasti 2002; Pinker et al. 1987). Here, however, both are explained by the so-called "maturation hypothesis" which basically states that children do not yet possess the ability to form A-chains, *i.e.* they still lack the (innately-given, but not yet matured) transformational mechanism necessary for the noun phrase movement in passive sentences.

given rise to quite distinct explanations. Some argue that the bias for actional verbs (e.g., *kick*, *dress*, *hit*) is due to the fact that these verbs outnumber non-actional verbs (e.g., *love*, *forget*, *see*) in children's input (verb-based accounts), whereas others explain it with the semantic properties of non-action verbs (class-based accounts).[155] Similar to the "verb-island hypothesis", verb-based approaches assume that at first the passive constructions – *be*-passives as well as *get*-passives – are acquired for and used with individual lexical items which are frequently found in input language (Gordon and Chafetz 1990: 228) and that children only later formulate more generalised rules for the passive, including the possible passivisation of non-actional verbs. By now, both the analyses of natural data as well as experiments in this field seem to greatly support this assumption (e.g., Brooks and Tomasello 1999; Horgan 1978; Israel et al. 2000).

Several things may account for children's omission of the agent *by*-phrase (b): while it could be interpreted as a processing problem, it could just as well be seen as "following suit", since analyses of parental or caregiver speech as well show a lack of long passives in input language (e.g., Gordon and Chafetz 1990: 234). Or it might be due to children's apparent preference for short, adjectival (often *get*-)passives which, generally, do not include a *by*-phrase (Harris and Flora 1982; Israel et al. 2000). As for (c) and (d), it is argued that children's early acquisition of stative passives may be facilitated by the co-occurrence between the word and the described situation: "[…] and the symbolic problem of associating a form with a meaning is made easier if the form reliably co-occurs with the entities to which it refers" (Israel et al. 2000: 109). In addition to (a) to (d), Horgan (1978) and Harris and Flora (1982), among others, show that child language for many years contains considerably more *get*- than *be*-passives and more truncated than full passives. Compliant with constructivist accounts of verb acquisition, Horgan (1978: 68ff) argues that in child language these two constructions are unrelated and that their development proceeds side by side, that is to say: separately.[156] This suggestion is supported by Budwig's (1990) exploration of children's use of passives. For the first time the specific issue of auxiliary choice was taken into

[155] For a more detailed picture of these two stances see Gordon and Chafetz (1990).

[156] Horgan's (1978) claim thus directly contravenes transformational grammar where a truncated passive is said to be derived from the full passive simply be deleting the logical subject. Such a view is problematic in the current context. Rather, construction-based learning seems to indicate that "the relationship between truncated and full passives is not as close as transformational grammarians have argued" (Horgan 1978: 68).

account and Budwig illustrates that the *get*- and the *be*-passive construction, perhaps especially so in English child language, are often associated with different discourse perspectives:

> The findings from the present research suggest that children, like adults, are sensitive to distinct form-function pairings. In particular, they associate the use of get passives with an activity scene in which an action brings about negative consequences. Children also appear to limit be passives to a particular activity scene involving a generic or unknown agent, or on who is irrelevant to the discourse (1990: 1247).

It thus seems important to consider the usage of *be* and *get* and the obviously different functions of these auxiliaries in the passive constructions when examining the English passive voice in language acquisition.

The earlier claims that children under the age of 5;0 or 6;0 do not master the long passive construction in English have by now been dismissed, however, since recently conducted elicitation experiments have shown children below 3;0 years of age to be capable of producing full passives given the regular exposure to appropriate input and training (Brooks and Tomasello 1999). Yet once again it is also stressed "that children's earliest syntactic constructions are structured by the particular verbs or predicative terms they occur with" (Brooks and Tomasello 1999: 42) since only the older children participating in the experiment showed a more general and productive understanding of the passive construction.

Finally, it is important to note that children acquiring languages other than English, e.g., Inuktitut, Sesotho or Zulu[157], produce both truncated and full passives quite regularly from early on in development (Brooks and Tomasello 1999: 29). The reasons for this distinct developmental path are mainly seen in the differences between the structures of these languages and in the varying input frequencies of the passive. So, for example, Inuktitut passives are very common in child-directed speech and are structurally simpler than active-voice constructions (ibid.: 30). The English passive construction, in contrast, "is a marked construction, containing several additional linguistic elements relative to active-voice constructions" (ibid.: 29) and "it is not a frequent construction in child-directed speech" (ibid.).

[157] Compare studies by Allen and Crago (1996) for Inuktitut, Demuth (1989, 1990) for Sesotho and Suzman (1985) for Zulu.

While the CSB corpus findings so far do not appear to be very revealing or supportive concerning children's acquisitional process of the family of passive constructions, they might still be insightful if considered in the context of one particular theoretical approach which I will come to next.

8.2.4 Constructional grounding

In 8.2.2, it was already hinted at the possible significance of passivised *get*-constructions. While disregarded as "makeshift" passive constructions by many, they might in fact play an important role in child language acquisition. As pointed out by Lee (1974) more than three decades ago, the "*get* + past participle-construction" might serve as a transitional structure within children's acquisition of the passive voice. When analysing the development of seven English speaking children's use of the passive participle, Israel et al. (2000) also notice that all seven of their studied children followed a similar path: they proceeded from the use of exclusively stative participles to ambiguously used participles to finally using eventive participles characteristic of the full passive. To explain their findings, they applied the "constructional grounding" hypothesis, as discussed in Johnson (1999). According to Israel et al. (2000), constructional grounding, defined as "a process whereby certain uses of a relatively simple source construction provide the basis for children's initial hypotheses about a more difficult target construction" (2000: 103), in case of the passive construction, works as follows: children start off with stative participles only since these are relatively easy to learn because they most reliably co-occur with the situations children experience during conversational interactions with adults (ibid.: 105). In a next step, children use equivocal contexts to extend their initial stative understanding of the participle. Such equivocal contexts "provide children with an opportunity to associate a new meaning and pragmatic function with a[n already familiar] constructional form" (ibid.: 107). They may then gradually learn to associate the use of the participles directly with an eventive scene (ibid.: 110).

Even though the mothers' speech remained unanalysed in the original study, such an analysis would have been useful to uncover the passive structures these children experience in their input, and, most interestingly, to see whether the children also hear many equivocal passives, which are understood to provide the necessary bridging

contexts between stative and eventive ("true") passives. Examining the CSB corpus according to the criteria used by Israel et al. (2000: 112ff) indicates a distribution of this kind: together with all the *get*-passives, which, so the authors claim, are generally equivocal since the participles used in this construction are usually stative while the construction as a whole denotes a change of state (ibid.: 113), there are 48 instances where a participle is used in an equivocal context, allowing for both interpretations, the stative and the eventive reading. Thus, it can be claimed that children experience all three contexts – the stative (55 instances), the equivocal (48 instances) and the eventive (67 instances) – almost equally often when listening to storybooks (compare Table 8.1). Once again it must be stressed, however, that there is by no means an equal distribution of the various passive or passive-like constructions among the texts in the corpus. Whether or not shared storybook reading can actually help children at all with the task of acquiring the English passive voice in this particular case depends very much on the selected storybook itself.

8.3 Modal auxiliaries

8.3.1 The modal auxiliaries in English

Speakers and writers of English have a whole set of different linguistic devices at their disposal not only to express their ideas, thoughts or emotions, but also to convey their attitude towards what they are saying. Linguistically, the latter is subsumed and analysed under the term "modality". Modality can be defined as the manner in which the meaning of a clause is qualified in ways that allow speakers to express many subtle nuances of meaning surrounding their feelings, opinions and attitudes towards what is being said. But, as indicated above and in contrast to the issues dealt with so far, there is no single modal construction in English that speakers and writers use in this context. Thus, for grammarians modality is a complex concept: "There are a number of lexicogrammatical resources through which modal meanings are realised in English" (Torr 1998: 158f) and grammar books differ "in terms of their criteria for determining which expressions are to be considered modal" (ibid.). A speaker's inclination may be expressed by adjectives (*likely*, *necessary*), adverbs (*maybe*, *necessarily*), the usage of "mental" verbs such as *think* or *guess* in expressions like *I think…* or *I guess…* (both followed by a subordinate clause), or, most importantly, by modal auxiliary verbs

(Tomasello 2003: 224). In the current study, I will concentrate primarily on the last-mentioned option of marking modality.

As auxiliaries modal verbs enter "ordinary", that is to say modally unmarked, verb constructions and extend them syntactically and semantically, thus adding to the complexity of a sentence or utterance. Modal constructions (e.g., modal auxiliary + lexical verb + complementing elements) are therefore longer and more complex constructions than modally unspecified intransitive, mono-, complex- or ditransitive constructions. Following Quirk et al. (1985: 137), there are nine central modal auxiliaries in English: *can*, *could*, *may*, *might*, *must*, *shall*, *should*, *will* and *would*.[158] Syntactically, all the defining criteria for auxiliary verbs in general apply also to central modal verbs; in addition, there are some specific morphological and syntactic features that distinguish them from the primary verbs *be*, *have* and *do*.[159] However, like other auxiliary verbs modal auxiliaries "are used to build up a complex verb phrase and cannot occur alone unless a lexical verb is recoverable from the context" (Biber et al. 1999: 72).

As indicated by the term "central", there are, apart from the already named ones, a number of other (modal) verbs used in English to state the speaker's attitude towards the status of the proposition expressed in a clause (e.g., *ought to*, *be able to*, *dare*). When studying the literature on English modal verbs it quickly becomes evident that researchers group and term these differently because they form such a heterogeneous set. As clear-cut categorisation seems impossible both syntactically and semantically, the concept of gradience once again not only offers a compromise solution but also appears closest to the base-line. So, for the purpose of this study, these other modal verbs are assumed to be lying on a scale between the central modal auxiliaries and full lexical verbs (see Quirk et al. 1985: 136f). Due to their relatively infrequent occurrence within the collected data (≤ 1% of all verb forms), however, any type of conclusive analyses turned out to be impossible. They therefore remained excluded from this study.

Historically, most of the central modals can be paired into past and non-past forms: *can*/*could*, *may*/*might*, *will*/*would*, *shall*/*should*. However, such a classification proves useful only to a very limited extent when trying to describe the modal verbs'

[158] Often, *ought to* is found in the literature as a tenth central modal verb. However, following Quirk et al. (1985: 120), *ought to* will be treated as a marginal modal here.
[159] For a detailed description of the defining criteria see Quirk et al. (1985: 121-128).

range of meanings (Quirk et al. 1985: 220). While it is important to note that modal verbs can occasionally be used to mark time distinctions, their primary function clearly lies in marking speaker stance. They encode a number of meanings, including such concepts as "ability", "possibility", "certainty", "volition", "intention", "permission", "necessity" and "obligation". Palmer (2003: 7) distinguishes three central types of modality: epistemic, deontic and dynamic. The first one, epistemic modality, touches solely on a speaker's attitude towards the status of a proposition and usually relates to assessments of likelihood: "possibility" (as in example 2 below), "necessity" or "prediction" (Biber et al. 1999: 485).

(2) You **could** still sail the oceans for a year and never see a single one. (CB 44) [possibility]

In contrast, "Deontic and Dynamic modality relate directly to the potentiality of the event signalled by the proposition" (Palmer 2003: 7). What differentiates them is the source of the controlling force: in case of deontic modality (example 3) "the event is controlled by circumstances external to the subject of the sentence", but with dynamic modality (example 4) "the control is internal to the subject" (ibid.).

(3) You **should** try to catch up with it, Thomas… (CB 61) [obligation]

(4) Big rabbits **can** swing really high. (CB 51) [ability]

Thus, both deontic and dynamic modality concern actions and events which humans or other agents directly control (Biber et al. 1999: 485). The crucial point regarding such a classification is that, depending on the context, the modal verbs vary in meaning between epistemic, deontic and dynamic as shown in examples (5) and (6):

(5) He **must** have got out of the sty. (CB 47) [epistemic]

(6) But now we really **must** go. (CB 43) [deontic]

So clearly, grammarians as much as the language learning child are confronted with a complex and somewhat blurred and complicated system that, within the realm of grammar, evades straightforward syntactic and/or semantic classification and that, due to its fuzziness and semantic plurifunctionality, presents a specific hurdle in language acquisition.

Both parties find themselves in even greater perplexity if they extend their efforts of coming to terms with the complexities of the system of modality to negated

modal expressions. The factors responsible for the additional difficulties inherent in negating modal expressions are at least two-fold. First of all, there are two different possibilities of negation: auxiliary negation as in example (7) and main verb negation as in (8) (Quirk et al. 1985: 794):

(7) We **can't** have a strange prince in the castle. (CB 47)

(8) Yet, the blue whale **may not** be as lonely as it seems. (CB 44)

Sentence (7) could be paraphrased as "It is not possible that we have…" while the correct interpretation of (8) would be "It is possible that blue whales are not as lonely…" Hence, in (7) the scope of negation includes the auxiliary, but in (8) it does not. This distinction between auxiliary and main verb negation applies to all modal auxiliaries except *will* and *would* where it is neutralised (Quirk et al. 1985: 795, 797). Secondly, in order to achieve one or the other, two distinct devices are employed: in some cases, different verbs, e.g., *may* instead of *can* as in (7) and (8), are needed, in other cases (example 9) a logically equivalent form is used (suppletion)[160]:

(9) My bath **must** be ready by now. (CB 19)

(9') My bath **may** not be ready by now. ["possible not" for "not necessary"]

(9'') My bath **can't** be ready by now. ["not possible" for "necessary not"]

To adequately account for these devices is no easy task for the grammarian; to fully acquire them no simple exercise for the language learning child. While the number of studies on children's acquisition of modality in English is overall relatively small, the difficulties added to this feature of language acquisition by negation have not yet received any specific attention. Therefore, the current study will focus principally on the affirmative use of modal verbs.

8.3.2 The acquisition of English modals

Fletcher (1979) already argued that the early acquisition of verb forms, including auxiliaries, is best characterised as piecemeal lexical learning. And although children's repertoire of linguistic forms contains some modal verbs from early on in development, their gentle acquisition of modals "suggests that an adultlike category of modals based on abstract rules is late to develop" (Shatz and Wilcox 1991: 328, 332). It has been shown that children's early use of modal verbs is severely restricted regarding

[160] See Palmer (2001: 90-92) for a more detailed description of these two devices.

morphological, syntactic and, above all, semantic features (e.g., Stephany 1986). Children's mastery of the multifunctional and complex English modal construction develops only gradually, beginning relatively late and stretching over a period of several years until well into school age (ibid.: 391-393). In this respect, it is comparable to the acquisition of the passive constructions as described above (8.2.3).

For several languages it has been shown that, historically, deontic expressions emerge before epistemic expressions, with the epistemic meanings developing from/out of the deontic ones (ibid.: 399). Children's acquisition of deontic and epistemic modality seems to follow the historical pattern almost regardless of the language they acquire (Stephany 1986: 398; Tomasello 2003: 224f). Stephany (1993: 138ff) sees the reasons for this later appearance of epistemically-used modals as based upon linguistic, pragmatic and cognitive constraints. It has, however, been shown that languages which encode epistemic modality in ways more salient and easier to learn for children deviate from this general acquisition pattern (Tomasello 2003: 225), as demonstrated by Choi (1991). She found that children acquiring Korean start using the obligatory verbal suffixes that encode various epistemic distinctions in Korean around their second birthday, whereas English speaking children are reported to typically not use the modal verbs epistemically before their fourth birthday (Stephany 1986: 396f). This means that children are cognitively capable of acquiring and using certain forms of epistemic modality fairly early, if supplied with the right kind of language input (Tomasello 2003: 225). Despite Choi's findings, however, it remains a fact that it takes children several years to eventually master all the subtleties of the modal system (ibid.).[161]

On the basis of naturalistic longitudinal, experimental and input studies the course of modal verb acquisition in English has been described (e.g., Byrnes and Duff 1989; Hirst and Weil 1982; Shatz et al. 1986; Wells 1979).[162] From studies of children's productions in naturally occurring conversations it was concluded that the usage of modal verbs begins gradually around age 2;0 with the first modal meanings centring on "intention", "volition", "imminence", "ability" or, more often, "inability" (Shatz and

[161] Palmer's (2003) third type, dynamic modality, has entered the existing acquisitional studies of modal expressions only peripherally and is therefore not accounted for here. It must be pointed out that, in general, most of the studies mentioned in this chapter take the distinction between "root" (*i.e.* deontic and dynamic modality) and epistemic modality as their starting point which often results in imprecision (compare Papafragou 1997: 8).

[162] For a detailed overview see Shatz and Wilcox (1991: 326-340).

Wilcox 1991: 331). Some of the earliest modal expressions are the semi-grammaticised *wanna*, *gonna*, *hafta*, and *needta* (see Gerhardt 1991) which functionally seem to be restricted to talking about the self (Torr 1998: 170f). Also important at an early stage are *can*, *can't* and *don't* (Tomasello 2003: 224f). The range of syntactic contexts in which the modals appear has been found to change only slowly. During the preschool years (between 3;0 and 5;0) the first epistemic uses of modals occur beside the by then more consolidated expressions of the non-epistemic modality (Shatz and Wilcox 1991: 333). A series of experimental studies of comprehension strongly stresses children's inability to differentiate between the subtle nuances conveyed by the variety of modal verbs until well into school age[163] (Tomasello 2003: 225f). The conclusions drawn from input studies point in the by now already familiar direction: the frequency with which children hear particular forms and meanings has been shown to affect, among other factors such as, for instance, the child's processing capacities and more general cognitive development the course of their modal acquisition (Shatz and Wilcox 1991: 340).

As so often when studying language development it is thus not possible to filter out (the) one responsible factor for children's relatively late acquisition of the modal verb system in English. Its syntactic and semantic complexity, the fact that within this system there seem to be several words to express almost the same thing (e.g., the meaning of permission can be assigned to *can* and *may*) – a fact seemingly inconsonant with children's early avoidance of even partial synonymy[164] – and its close entanglement with the concept of futurity may all play as much a role here as a child's cognitive development or the kind of language input she receives. Alternatively, as suggested by Papafragou (1997), children's not yet fully developed theory of mind could be the reason for the delayed comprehension and production of epistemic modality. Bearing in mind these various factors, it may be best to opt for an integrated model when seeking a way of explaining the acquisition of English modality. A

[163] In a comprehension study Coates (1988) found that even children as old as 8;0 and 12;0 years have great difficulties with the complexities of the modal system in English.

[164] Clark (1987) argues that children, at least at certain stages in development, rely on what she calls the "principle of contrast". According to this, for a child to register them, any two linguistic forms must somehow differ in meaning. In the current context, this would help to explain, on the one hand, why we find systematic distinctions between closely related modal auxiliaries in child language and, on the other hand, why epistemic modals occur late in development if there already are other epistemic constructions available to the child (e.g., "epistemic phrases"; see 8.3.4).

valuable suggestion made by Shatz and Wilcox (1991: 340ff) goes as follows: instead of one or two central interfering factors a variety of constraints that operate partly simultaneously, partly subsequently on modal acquisition is postulated. Among these is the input which is limited in meaning, centring on non-epistemic uses, and in frequency with regard to the usage of the different modal auxiliaries. Furthermore, a substantive cognitive constraint is suggested to be at work, at least before the age of roughly 2;6, as well as there appear to be constraints on syntactic knowledge: "[…] empirical findings suggest that children first create narrow grammatical categories for modal words, based on selected morphological and phonological characteristics, or, possibly, on positional privileges of occurrence" (Shatz and Wilcox 1991: 345). The important point made by the authors is that these constraints may not apply continually with the same strength during the course of acquisition. The idea is that the constraints change with the cognitive and grammatical development of a child just as the input to children and their perception of it changes. Yet both the adaptations of the input and children's consciousness of their input data are subject to what they have already learned (ibid.: 346f). Thus, there are, naturally, differences in the acquisitional paths of children since these are a function of the interplay of constraints in each case.

As the current study's focus is on storybook reading as an additional source of language input for the child, I will now explore what happens in the CSB corpus with regard to the occurrence of modal auxiliary verbs and the variation patterns of their functions.

8.3.3 The corpus findings

Table 8.2 shows the distribution of the central modal auxiliaries and in case of *will* and *would* also of their varying forms across the CSB corpus. It displays the forms of usage along with the number of tokens for each modal auxiliary. Whereas *will*/*would*, *can*/*could* and *shall*/*should* are given separate sections in the table, *may*, *might* and *must* due to their relatively lower frequencies of occurrence are joined together for the purpose of clearer arrangement.

Table 8.2: The distribution of modal verbs in the CSB corpus

modal verb	tokens
will	73
'll	79
would	89
'd	13
negated (won't; wouldn't; not/never)	44
297 tokens (45%)	

modal verb	tokens
can	89
could	108
negated (cannot; can't; couldn't; not/never)	74
271 tokens (41%)	

modal verb	tokens
shall	17
should	20
negated	6
43 tokens (6%)	

modal verb	tokens
may	4
might	14
must	30
negated	3
51 tokens (8%)	

Similar to verbs used in the passive voice, modal auxiliaries have a relatively small share of all the verb forms accounted for in the CSB corpus. Of the 9,973 verb forms altogether marked in the corpus, only 7% (663 instances) are central modal auxiliary verbs. As can be seen in Table 8.2, 86% of all these are forms either belonging to the *can*/*could* paradigm or to the *will*/*would* paradigm. The modal auxiliaries *may*, *might*, *must*, *shall*, and *should* grouped together comprise for the remaining 14%, with their negative forms occurring either just peripherally or not at all. Consonant with the findings shown above, Wells (1979) reports *will* and *can* to be the most frequently used modals by his sample of British English-speaking mothers.

According to Biber et al.'s large corpus studies, verb phrases containing a modal verb are less frequent than tensed verb phrases (1999: 456) as are primary auxiliary verbs in contrast to modal auxiliary verbs (with the former being used more than twice as often; ibid.: 359). Regarding the frequencies of the individual modals, the authors found *will*, *would*, *can* and *could* to be the four most frequently used modal verbs across the investigated registers (Biber et al. 1999: 488). Quirk et al. offer comparable results stating that "*[w]ill*, *can*, and their past forms *would* and *could* are notably more frequent than other modals" and that, in general, "the frequency of individual modals varies greatly from *will* (four times per thousand in spoken BrE) to *shall* (three times per ten thousand words in written English)" (1985: 136). When looking at the "fiction" register alone, a distributional pattern similar to the one found in the CSB corpus is revealed by Biber et al.: *can*, *could*, *will* and *would* are the most frequently used modal auxiliaries

with *could* and *would* outnumbering *can* and *will*, respectively (1999: 489). Biber et al. do not distinguish between full and contracted forms.

In view of the (semantic) complexity of the category of modality, a mere quantitative analysis is, naturally, insufficient; of substantially greater importance is a qualitative analysis. Few input studies offer detailed information here. However, Shatz and Wilcox report that, with respect to meaning of modal verbs, "intention" (deontic modality) and "possibility" (epistemic modality) were the most frequently expressed nuances by the mothers studied (1991: 339). Unfortunately, they do not specify which of the modal verbs were used in each case. Similarly, Papafragou also states: "it is reasonable to assume that most modal expressions produced by parents to children will have to do with permission, obligation, ability and other related notions, rather than with inference and the evaluation of the necessity and possibility of a conclusion" (1997: 9). In an attempt to classify the modal auxiliaries found in the CSB corpus, the outline given by Quirk et al. (1985: 221-236) was chosen to categorize the nine central modals individually. For this, only the most generic Quirkian terms ("possibility", "ability", "permission", "necessity", "obligation", "inference", "prediction" and "volition") were adopted, leaving aside secondary categorisation within groups. However, this kind of analysis proved incomplete since it lacks other important meanings of these modals. While Quirk et al. deal with those in a number of supplementary paragraphs (1985: 231-236), a dissect analysis of this kind would go beyond the current study's focus. Considering the studies on input and child language, it is of more importance to investigate the frequencies with which the group of modal auxiliaries in the CSB corpus is used with respect to epistemic and deontic modality. Only then will it be possible to state whether or not the usage of modal verbs in storybooks diverges significantly from that found in input studies and reflected in naturalistic child language data.

Thus, for a second analysis of the CSB corpus Palmer's (2003) somewhat broader categories were chosen in order to differentiate all the affirmatively-used modal verbs on the more general level of epistemic, deontic and dynamic modality. Table 8.3 reflects the overall pattern:

Table 8.3: Three types of modality

	epistemic modality	deontic modality	dynamic modality
number of modals	252 (47%)	119 (22%)	130(24%)

Counter to the findings in input studies, the distribution of the usage of modal auxiliaries in children's storybook texts reveals a strong tendency in favour of the epistemically used modals. This group of modal auxiliaries by itself accounts for just as many tokens as those used to assert deontic and dynamic modality taken together. Figure 8.2 shows, for instance, the *KWIC* concordance list for *might* which 13 times out of its overall occurrence of 14 times in the CSB corpus is used epistemically:

N	Concordance		
1	[VMOD] it be[BE-VCOP]?" "It	might[VMOD]	be[BE-VCOP] a monster!" "With
2	-FV-ITR] down the river? It	might[VMOD]	be[BE-VCOP] a secret message
3	FV-ITR] down the river. There	might[VMOD]	be[BE-VCOP] a secret message
4	[BE-VCOP] afraid that there	might[VMOD]	be[BE-VCOP] lions or tigers in the
5	seen[SEE-FV-MTR(NP)]. They	might[VMOD]	be[BE-VCOP] stripey, or polka dot.
6	[DS] Little Tiger. "My tiger duck	might[VMOD]	break[BREAK-FV-MTR(NP)] a wheel
7	of your bedroom window, you	might[VMOD]	catch[CATCH-FV-CTR(+CL)] him
8	[PULL-FV-ITR] together we just	might[VMOD]	do[DO-FV-MTR(NP)] it." And while
9	[RAIN-FV-MTR(NP)] enough, it	might[VMOD]	happen[HAPPEN-FV-ITR] again and
10	his troubles, but though Bella	might[VMOD]	have[HAVE-VAUX] been [BE-VCOP]
11	to an ordinary home things	might[VMOD]	have[HAVE-VAUX] been [BE-VCOP]
12	MTR(NP)] mushrooms, or they	might[VMOD]	have[HAVE-VAUX] gone[GO-VCOP]
13	less wise than Bella Donna	might[VMOD]	have[HAVE-VAUX] thought [THINK-
14	think [THINK-FV-MTR(CL)] they	might[VMOD]	just as well have[HAVE-VAUX]

Figure 8.2: *KWIC* concordance list for *might* in the CSB corpus

From Figure 8.2 we can also deduce a certain pattern regarding the verb directly following the modal *might*: in half the cases it is a form of *to be*. Table 8.4 offers a more detailed description of all the individual modal verbs and their functional distribution:

Table 8.4: Types of modal verbs and modality in the CSB corpus (total numbers of occurrences)

	can	***could***	***will***	***would***	***shall***	***should***	***must***	***may***	***might***
epistemic	4	41	121	52	8	-	11	3	13
deontic	17	5	31	16	9	20	19	1	1
dynamic	68	62	-	-	-	-	-	-	-

A closer look at the modals themselves and their meaning quickly shows that, above all, two concepts find expression with regard to epistemic modality: "possibility" (mainly *could*, *might* and *must*) and "prediction" (*will* and, to a significantly lesser degree, *would*). Only very few instances of modal verb usage convey "necessity" in any way. With respect to deontic modality, "obligation" (expressed by *must* and *should*/*shall*) and

"intention" (*will* and *would*) are the concepts expressed most frequently with meanings relating to "permission" occurring relatively scarcely. Thus, for instance, Figure 8.3 shows the usage of the modal verb *shall* in the CSB data. *Shall* is used deontically in nine instances, indicating "intention", and epistemically in eight instances, indicating "prediction". In ten out of 17 instances *shall* occurs in an interrogative sentence structure and the subject in all the examples is in the first person (either *I* or *we*). Only the *wh*-question "What shall we do?" is notable with regard to the concordances displayed in Figure 8.3, whereas no general pattern regarding full lexical verbs used in combination with the modal *shall* could be detected:

N	Concordance		
1	[EXPECT-FV-MTR(CL)] I	shall[VMOD]	be[BE-VCOP] quite warm enough
2	-MTR(NP)] a new house. "I	shall[VMOD]	build[BUILD-FV-CTR(+A)] my house
3	-VCOP] as quiet as a muse. "I	shall[VMOD]	eat[EAT-FV-MTR(NP)] them all," he
4	[DS]. "For my lunch today I	shall[VMOD]	feast[FEAST UPON-FVpr-MTR(NP)]
5	to Panama, Bear, and then we	shall[VMOD]	have[HAVE-FV-MTR(NP)] everything
6	and hungrier!" he said[DS]. "I	shall[VMOD]	{have to}SAUX eat[EAT-FV-MTR(NP)
7	-FV-MTR(NP)] their visitor.	"Shall[VMOD]	I do[DO-FV-MTR(NP)] some of my
8	she wonders[DS]: "When	shall[VMOD]	I see[SEE-FV-MTR(NP)] my little
9	then," said[DS] Binks. "Well,	shall[VMOD]	I sing[SING-FV-MTR(NP)] a song…
10	NP)] you my hat. In a week I	shall[VMOD]	marry[MARRY-FV-MTR(NP)] Céleste
11	-ITR] around the room. "What	shall[VMOD]	we do[DO-FV-MTR(NP)]?" "Hold
12	raining[RAIN-FV-ITR]. "What	shall[VMOD]	we do[DO-FV-MTR(NP)]?" says[DS]
13	on the pavement. "Oh, what	shall[VMOD]	we do[DO-FV-MTR(NP)]!" Where
14	-ITR] from the stairs!" "W-what	shall[VMOD]	we do[DO-FV-MTR(NP)]?" said[DS]
15	do[DO-Fv-MTR(NP)]! Where	shall[VMOD]	we go[GO-FV-ITR]!" wailed[DS] Lucy.
16	boring," said [DS] Baby Bear.	"Shall[VMOD]	we have[HAVE-FV-MTR(NP)] a
17	a picnic together. "Which table	shall[VMOD]	we sit[SIT AT-FVpr-MTR(NP)] at?"

Figure 8.3: *KWIC* concordance list for *shall* in the CSB corpus

So one may say that, although in contrast to naturalistic input studies no obvious restriction to deontic modality was found for the CSB corpus, the range of concepts conveyed through modal auxiliaries in the texts as well as the modals used to express these concepts are nevertheless somewhat limited for both epistemic and deontic modality.

Furthermore, three other observations should be taken into account. Firstly, Table 8.4 includes only 68 instances of *would* out of the 102 altogether accounted for in the corpus with the missing 34 instances being instances of a very different usage of *would*: here, *would* is used to describe a person's characteristic habit or behaviour and replaces the simple past in these cases (Alexander 1988: 235). Since there is no specific modality meaning attached to this usage of *would*, it was excluded from Tables 8.3 and

8.4. Secondly, the modals *can* and *could* frequently appear with verbs of perception. This type of combination accounts for roughly one third of the dynamic uses of *could* with *could see* (16 instances) being the most prominent sequence. *See*, which also occurs repeatedly in combination with *can* (seven times out of eleven *can*-combinations altogether), is the predominant verb of perception overall; other verbs are *hear* (five instances) and *smell* (one instance). Despite their categorisation as dynamic (*i.e.* internally controlled ability of an individual) before, this use of *can*/*could* with stative perception verbs primarily serves a purely grammatical function: the combination *can*/*could* (and *can't*/*couldn't*) with verbs of perception is used in place of the progressive here to refer to a particular moment in the present or past (Alexander 1988: 160f). According to Quirk et al., perception verbs "cannot occur with the progressive aspect" (1985: 204), nor can the simple present/simple past be used to express a momentarily ongoing state of perception since it would imply an eventive meaning (ibid.). The function of *can*/*could* in these cases may be regarded as equivalent to that of *do*/*does* in questions and negatives (Alexander 1988: 214). Thirdly, with respect to both *can*/*could* and *will*/*would*, a notable observation is that many of those instances interpreted as deontic modality are either a request or an offer to do something for somebody else. It may be that these kinds of "language/speech acts" especially appeal to the different authors and that they consider it important to familiarise young children with these politeness strategies of the English language. So not just is the range of meanings for epistemic and deontic modality restricted in the corpus, but there are, moreover, other factors which slightly distort the above-given categorisation of modal verbs within all three types of modality.

In more general terms, it is important to notice that the three kinds of modality and the modal auxiliaries classed accordingly (Tables 8.3 and 8.4) are not always as easily distinguishable as it might seem.[165] Even in context, a modal auxiliary often allows two or more different meaning interpretations, consequently making an irrevocable assignment of some modal verbs to (just) one category almost impossible. Although for the purpose of this study a seemingly clear-cut categorisation has been

[165] Papafragou (1997: 8) emphasises this factor as well: "As linguistic studies of modality have emphasised, it is often difficult to determine on a given occasion of utterance whether a modal verb should be assigned an epistemic or a root interpretation […] The same argument applies with equal force inside each of the two broad types of modality […]."

carried out, the introduction of a "gradient of modal meaning nuances" might, in general, once again be the better or, for that matter, more accurate solution. Just how much of the categorising depends on the definitions of the categories themselves and of their interdependencies can be seen by the following diverging perspectives found in the literature. For Palmer, who distinguishes three types of modality (epistemic, deontic and dynamic), both deontic and dynamic modality "relate directly to the potentiality of the event signalled by the proposition, but of two different types, both of which may both be seen as 'directive' – getting things done" (2003: 7). Here, dynamic modality, characterised by conditioning factors internal to the relevant individual, and deontic modality, where the conditioning factors are external (Palmer 2001: 9f), are understood as closely related concepts.[166] By contrast, Quirk et al., who do not have a third category "dynamic", state that "the 'ability' meaning of *can*/*could* can be considered a special case of the 'possibility' meaning, viz one in which the possibility of an action is due to some skill or capability on the part of the subject" (1985: 222). Thus, depending on the theory one favours the above-given findings can be interpreted in one of two ways: following Palmer (2003), epistemic and deontic/dynamic modality is expressed about equally often in the CSB corpus (253 and 249 instances, respectively); but the Quirkian definitions lead to a somewhat different picture, in that the epistemic meanings (which in that case include all instances categorised as dynamic) clearly outnumber the deontic ones (382 and 119 instances, respectively). Whichever one prefers, what remains unchanged is the fact that in the language found in children's storybooks propositions conveying epistemic meanings are not second to those expressing deontic modality and that in this the reading material, despite also not displaying the full range of meanings, seems to differ from naturalistic language input.

8.3.4 "Epistemic phrases" to express epistemic modality?

One other device through which speakers can convey their attitude towards the truth or reliability of their assertions (*i.e.* epistemic modality) are so-called mental verbs. Although so far only mentioned in passing, these verbs do not only play a crucial role in early child language but there also exists a noteworthy study by Thompson and Mulac (1991) regarding the status of *think*, *guess* and similar verbs when used (in adult

[166] Compare also Stephany (1986: 376): "As both ability and volition are basically concerned with conditions for action, however, it seems preferable to treat them as deontically modal […]."

language) to express the degree of speaker commitment. In what follows, the study and its findings will first be summarised and integrated with certain statements made on the function of mental verbs in early child language; secondly, the implications of the study for the acquisitional process of modality in English will be outlined and exemplified by data from the CSB corpus.

Although their starting point is a somewhat different one, the claims made by Thompson and Mulac (1991) and their findings are interesting in view of the current discussion on children's acquisition of (epistemic) modality in English. The object of their investigation is all instances of complex clauses with the matrix clause consisting of a mental verb like *think* or *guess* and the complement clause being introduced either with or without *that*. That is, in their sample of recorded and transcribed conversation[167] they count all occurrences of main subject and verb, as in (10) and (11)[168], which either did or could occur with *that* (Thompson and Mulac 1991: 315) and then analyse the status of the matrix clause.

(10) I think *that* we're definitely moving towards being more technological.

(11) I think *0* exercise is really beneficial, to anybody.

Thompson and Mulac suggest that in cases where the *that* introducing a complement clause is missing the subject and verb of the matrix clause may no longer function as main subject and main verb but rather as "an epistemic phrase, expressing the degree of speaker commitment" (1991: 313). They argue that "where the embedded clause loses much of its embeddedness, its subject, rather than the main clause subject, tends to be the topic of the discourse, and its content, rather than that of the main clause, tends to be what the writer is endorsing" (ibid.: 315). The central hypothesis goes as follows:

> EPs [epistemic phrases] [as in (11)] are grammaticized forms of subjects and verbs introducing complement clauses [as in (10)]. The use of EPs as EPARs ['epistemic parentheticals'] [as in (12) below] is evidence of this grammaticization (1991: 317).[169]

(12) It's just your point of view you know what you like to do in your spare time *I think*.

[167] The corpus consists of 116 8-minute-conversations between university students which were taped and subsequently transcribed. The data amounts to more than 240,000 words (Thompson and Mulac 1991: 315).
[168] Examples taken from Thompson and Mulac (1991: 313; italics in the original).
[169] Please note that the original numbering found in Thompson and Mulac (1991: 317) has been adapted to the numbering of examples in the current study.

The authors take the evidence for this hypothesis as being based on frequency as well as semantics and assume it supported by their findings:

> the most frequent target clause subjects and verbs are just those which are most frequently found as EPAR expressions, and […] the frequent occurrence of *I* (in declaratives) and *you* (in questions) without *that* in target constructions has led to their re-interpretation as epistemic phrases with verbs expressing belief […] (Thompson and Mulac 1991: 326).

In their extensive longitudinal study of the acquisition of sentential complement constructions in English, Diessel and Tomasello (2001) find criteria in early child language that fit very well with those identified by Thompson and Mulac (1991) in adult speech: "the subject is either missing or in first/second person; the verb is active, present tense, without auxiliaries […]; the matrix clause is shorter than the dependent clause and can occur in various positions; and there is no *that* complementizer" (Tomasello 2003: 251). Instead of actually containing two propositions children's early sentential complement utterances rather seem to consist of some kind of parenthetical evidential marker (a phrase such as *I think* or just *think*) indicating the child's attitude towards the content of the rest of the clause (ibid.: 250f). Similarly, Torr showed the (relative to modal auxiliaries) earlier occurrence/usage of *I think* clauses in the language of her subject Christie "to convey her assessment of the probability inherent in certain situations" (1998: 165). Shatz, Wellman and Silber (1983) in their study on the development of mental verbs also supposed mental verbs such as *think* and *know* to be first used for conversational/discourse purposes only. Two reasons may accord for these functions of mental verbs in early child language: first, by using mental verbs instead of modal auxiliaries to express their uncertainty regarding the content of their utterances children avoid assigning two different meanings (deontic and epistemic) to those modal verbs they already have in their lexicons (Shatz and Wilcox 1991: 342); secondly, early formulaic matrix clauses are structurally less complex than constructions containing two propositions – one in the matrix clause and another one in the complement clause – and may thus be easier for the young speaker (Diessel 2004: 113f). The usage of mental verbs in form of parenthetical epistemic markers may thus pave the way to both, different devices for epistemic modality and more complex sentential complement constructions. However, as shown above, adult language also knows this type of formulaic usage of mental verbs and may therefore trigger or, at the very least, support children's early use of mental verbs as epistemic markers. In fact, Diessel (2004: 113)

found strong correlations between the ambient language and children's usage of formulaic matrix clauses. The question thus arising is what kind of use is found for mental verbs in the CSB corpus. The five verbs taken into account here are *think* (93 instances), *know* (54), *remember* (26) *hope* (16) and *guess* (8). Table 8.5, following the study by Thompson and Mulac (1991), gives the figures for optional *that*, actual *that* and other kinds of verb complementation and the different functions with regard to the matrix clause when there is no *that* introducing the complement clause:

Table 8.5: Complementation and function of most common mental verbs in the CSB corpus (in total numbers)

	think	*know*	*remember*	*hope*	*guess*
occurrences:					
altogether	93	54	26	16	8
optional *that*	56	7	1	11	1
actual *that*	10	13	-	2	-
other compliments	27	34	25	3	7
function of optional *that*:					
EP	11	-	-	-	1
two propositions	45	7	1	13	-

As can be seen in Table 8.5, the most frequently occurring verb, *think*, is also the only verb (apart from one instance of *guess*) for which I found a function similar to that reported by Thompson and Mulac (1991) for adult spoken language and by Diessel and Tomasello (2001), Diessel (2004), Torr (1998) and others for child utterances as an epistemic phrase rather than as a proper matrix clause. It can therefore be assumed that the language in children's storybooks, possibly like written language in general, contains a larger number of mental verbs used in the traditional "main clause + subordinate clause" structure. So it could be concluded, firstly, that the larger number of formulaic matrix clauses functioning as epistemic phrases that is found in children's ambient (spoken) language is responsible for the their more narrowly used modal auxiliaries and vice versa and, secondly, that the opposite is true for the written language in children's storybooks: here, modal auxiliaries are used at a wider range and at the same time there are fewer instances of mental verbs used within epistemic phrases. Frequent shared storybook reading will thus provide children with expressions of modality slightly different from those found in their everyday input language and extend their language horizon accordingly.

8.4 Summary

In the present chapter, I have discussed two types of linguistic constructions that, at least from a syntactic point of view, have not much more in common than the fact that they both consist of two (or more) verbal components. In the context of the current study, I still dealt with them in one and the same chapter and under one heading because, in child language acquisition, both of them are marked by another characteristic: in English, passive as well as modal constructions appear relatively late in development and it usually takes children years to fully master them.[170]

I first turned my attention to the passive constructions and discussed the various types that exist in English. In comparison to its active counterpart a passive clause is considered the marked variant. Consequently, it is relatively infrequent in the spoken input children receive. The analysis of the corpus data showed a similar picture: verbal passives occur very infrequently and in more than half of the storybook texts they do not occur at all. I thus concluded that, in general, even frequent storybook reading could not actually compensate for the lack of "adequate" spoken input. However, when examining my data in connection with the hypothesis of constructional grounding, I pointed out that the language found in storybooks shows a near equal distribution of adjectival, equivocal and verbal passive so that it would provide children with good input material should they indeed follow the demonstrated path from purely adjectival *be*-passives to equivocal *get*-/*be*-passives to fully verbal *be*-passives.

In a next step, I introduced the different and (semantically) multi-functional central modal auxiliaries and highlighted in particular the complexity inherent in the concept of modality in English. A review of the literature in this area indicated that there are several possible factors that might be responsible for children's difficulties with comprehending and producing certain types of modality. Among them are again features of input language: it has been characterised as generally short of epistemically used modals. With regard to the CSB corpus, I found that there are just as many uses of epistemic modality as there are of deontic and dynamic modality together, but also that these are limited to the expression of only a few concepts, on the one hand, and to the use of certain modal auxiliaries, on the other hand. Overall though, storybook reading can, to a certain extent, balance language input concerning epistemically used modals. I

[170] See, e.g., Nippold (2004) and Tolchinsky (2004) on "the long route of language development".

also evaluated the corpus data in the light of so-called epistemic phrases. The analysis of the five most frequent mental verbs revealed that the majority of them is used in the traditional main clause/subordinate clause structure so that input language drawn from storybooks in this respect clearly counterbalances the use of mental verbs as markers of epistemicity as found in spoken language. My suggestion is therefore that through the repeated listening to text language children might eventually become aware of both the traditional use of mental verbs and of epistemically used modal verbs and so by and by come to use these as substitutes for their own constructions of parenthetical epistemic markers.

The findings and discussions that I presented in this chapter prompt me to propose three assumptions: first of all, although both construction types (passives and expressions of modality) are acquired late and in decisively piecemeal fashion, there are probably different reasons for this. While the low frequencies accounted for in different types of input language seem to preponderate in the case of passives, cognitive constraints would appear to carry more weight with regard to certain types of modality. Even if they occur in input language, children still stick to the "one word – one meaning" concept and/or alternative ways to express speaker attitude. Secondly, the two "tools" discussed in connection with children's acquisition of passives and the different meanings nuances of modal auxiliaries, namely constructional grounding and epistemic phrases, in my opinion fulfil different tasks within the acquisitional process. The former concept presents children with a, or the, decisive steppingstone between stative and eventive ("real") passive constructions, it allows for an intermediate step. The latter, however, is more of a backup capacity at the beginning and later – once epistemic modality is expressed through modal auxiliaries in child language – needs readjustment: once children stop using mental verbs such as *think* as an epistemic marker, they will have to learn how to correctly use these verbs in main clause/subordinate clause structures. There are thus more steps involved in the process. Finally, the acquisitional process with regard to passive constructions differs from that of full lexical verbs and their complementation patterns in the following way: with full lexical verbs frequency effects are believed to be influential in that highly frequent lexical verbs and the syntactic structures in which they most often occur are acquired earlier than others. As discussed earlier, it is suggested that the instantiation of one (or a few) verb(s) in one

complementation pattern might lead to a type of cognitive anchoring which then serves as the basis for comparison for other related type and that in this way children slowly build up their repertoire of linguistic constructions. Clearly, as demonstrated in the current chapter, there are no notable frequency effects for full or even truncated *be*-passive constructions and acquisition equals more a layered process, where one syntactically more complex level follows another. Syntactically, the acquisition of modal constructions can be said to work similar to that of lexical verbs. However, semantically they are acquired in more of a patchwork-manner than frequent lexical verbs: in case of modal constructions, individual patches are more slowly elaborated over a longer period of time.

9. Conclusion

The present study has been concerned with a detailed description and analysis of the use of lexical verbs and their complementation patterns in children's storybook texts. In the current chapter I will provide a summary of the most important findings and discuss their implications for first language acquisition (from the perspective of the language learning infant) as well as their significance for research in this field in general. I conclude by offering suggestions regarding possible directions for future research.

9.1 The scope of the study: Findings and implications

With the general focus being on the use and distribution of verbs three main areas were investigated in the course of this work: first and foremost, I directed my attention to the analysis of the occurrence of lexical verbs in the children's storybook (CSB) corpus that previously had been compiled especially for the purpose of the current study. Secondly, I focused on the behaviour of two particularly versatile multi-word verbs, namely *get* and *have*, in greater detail. And thirdly, I looked at the usage of passive constructions and modal verbs in my data. Throughout this study the approach taken was firmly empirical and consisted of both quantitative as well as qualitative analyses. The underlying assumptions were that child language acquisition is strongly tied to input language and that verb constructions play a particularly important role within the process of acquiring English as one's mother tongue.[171]

In Chapter 2, I first gave a comprehensive overview of the key premises of the cognitive-functional approach to language acquisition. The notion of the linguistic construction was introduced and its relevance in the context of first language acquisition explained. The idea that linguistic constructions can be learned on the basis of the input forms the heart of the constructivist and essentially usage-based approach. I traced children's acquisitional path as it is presently hypothesised in the literature. To complete the discussion I turned my attention to the forms and functions of input language within the constructivist approach. In its design, the current study is directly linked to this latter point since it sees its principal contribution to the present discussion of child language

[171] Investigations of, for example, child language acquisition in Hebrew, Hindi, Mandarin, French, German and Spanish show that the given assumptions are not restricted to English alone (see, e.g., Clark and Kelly 2006).

acquisition in its broadening the sphere of investigations of the linguistic input young children are exposed to early in their lives.

As shown in Chapter 3, existing studies on the importance of early shared book reading stress its positive influence on vocabulary acquisition but little reference is made regarding possible effects on grammatical accomplishments. The current work considers itself as a first step towards filling this desideratum.

In Chapter 4, the presentation of the children's storybook corpus and of the methodological procedure followed. In order to be able to systematically categorise all the lexical verbs in my data I made use of the verb complementation model found in Quirk et al. (1985). In Chapter 5, the Quirkian scheme was introduced and I explained in detail the modifications I decided to implement bearing in mind the aims of the present work. Most importantly, I did not adopt the Quirkian scheme in its full entirety but rather restricted my categorisation of the complementing syntactic elements of lexical verbs to distinguishing between a noun phrase and a clause, irrespective of the variants of complementing clauses that are generally found in this place (e.g., *that*-clauses, *wh*-clauses, *to*-infinitives or *-ing* clauses). My arguing in favour of this simplified version of the Quirkian model was based on the fact that it is unlikely that young children are cognitively capable of paying attention to such intricacies at an early stage in their language development.

Two questions served as the starting point for the analysis of lexical verbs in Chapter 6: what kinds of verbs are frequently used in the text language and in what kind of construction do they most often occur? I first investigated whether the lexical verbs as they occur in the CSB corpus are used intransitively, mono-, complex- or ditransitively.[172] Figure 9.1 illustrates the distribution of the 5,293 lexical verbs across the four complementation patterns. The four columns represent the total number of lexical verbs found in each pattern. In addition, the relation between single-word and multi-word verbs is indicated for each pattern by the distinct shading of the columns.

[172] Note that in Quirk et al. the discussion of the four main verb complementation types centres around copular, mono-, complex- and ditransitive patterns. As the current work is interested in the use of lexical verbs, however, copular complementation and its subtypes were neglected. Instead, I included intransitively used verbs as a fourth category.

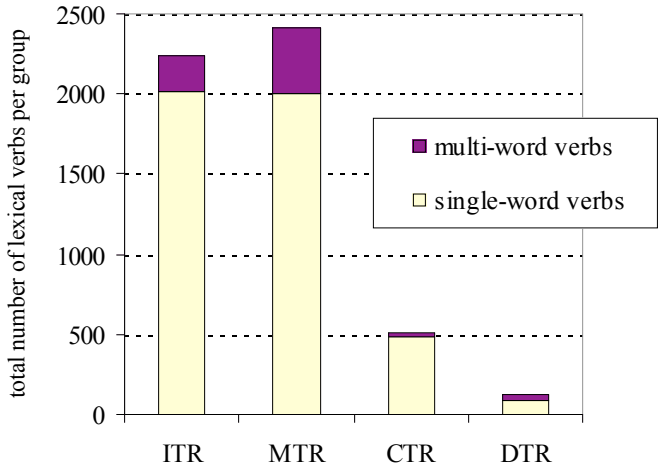

Figure 9.1: The distribution of lexical verbs across the four main complementation patterns

The monotransitive construction

As can be seen in Figure 9.1, verbs used monotransitively constituted the largest complementation group in the CSB corpus. The high frequency of monotransitively used verbs in general language use is often attributed to the relative flexibility of the construction: "The simple transitive construction in English is used for depicting a variety of scenes that differ greatly from one another" (Tomasello 2003: 149). The meaning diversity inherent in the construction is already displayed by the following four examples:

(1) Ozzie Bear **had** a flag and a hat. (CB 20)

(2) And Kipper **has attacked** it. (CB 41)

(3) […] and his dog **caught** a ball with one bound. (CB 13)

(4) Sand and cement mixed with water **make** mortar. (CB 39)

The overview of the relevant literature offered in section 6.2.2 revealed that children, based on their experience of spoken language input, are likely to be quite familiar with the construction itself as well as with the most frequent verbs that I found to occur in it in my data. Hence, I concluded that *prima facie* the language input children receive from storybook reading does not differ greatly from spoken input with regard to the monotransitive construction. For instance, *have* which by far occurred most frequently in the CSB corpus is always listed in other input and also in child output studies.

Yet similar does not mean equal; so I went on to suggest three possible scenarios that describe how children's development of the representation of the monotransitive construction could still be positively influenced through consistent book reading: thus, not only could the representation of already acquired usage patterns for a number of verbs be strengthened (entrenchment and preemption processes), but the number of "known" usage patterns could also be extended for certain lexical verbs. Last but not least, several unfamiliar verbs and their usage patterns could be added to a child's linguistic repertoire. Since my theoretical approach did not allow me to isolate any one impact factor it remains to be tested within an experimental setting which of the proposed effects might in fact occur and whether or not the possible impact is statistically significant.

The intransitive construction

Intransitively used verbs were found to range very close to monotransitively used verbs in their overall occurrence in the CSB corpus. My analysis demonstrated that many of the lexical verbs used most frequently in this pattern serve to express the concept of motion in one or the other way, either with or without a direction- or location-indicating adverbial (e.g., *go*, *come* and *run*, the three verbs most often accounted for). A comparison with other studies showed the majority of the 20 most frequently used verbs in my corpus to regularly occur in child input language in general. Thus, it must be stated that the written language component in this case displays no significant deviations from spoken input language. In contrast to the findings of Theakston et al. (2002) the additional detailed analysis of the verb *go* – the most frequently occurring lexical verb overall – did not reveal any particular usage patterns within the CSB corpus. Overall, I considered the occurrence of intransitively used verbs in the data to chiefly have fortifying effects with regard to the development of child language.

Mono- and intransitively used verbs

A further important point concerning mono- and intransitively used verbs was the discussion of the use of "mixed" verbs across the two patterns. Researchers have repeatedly argued that children's ability to flexibly use verbs that can alternate between the intransitive and the monotransitive construction indicates an important step in development: lexical verbs are then no longer represented as isolated linguistic

instances; instead, generalisation processes are said to have started and the young language learner seems to begin with the build-up of a more interconnected network of linguistic constructions. Considering the tribute paid to input language within the constructivist model of language acquisition where frequencies of occurrence are of utmost importance for the acquisitional process, it was interesting to see whether there are any high frequency verbs in the CSB data that repeatedly alternate between the two constructions. However, I concluded my discussion in Section 6.2.3 by stating that actually few verbs were found to alternate consistently. Thus, written and spoken language are similar in their tendencies to predominantly use mixed verbs in either one complementation pattern.

The complex-transitive construction

While quantitatively speaking complex- and ditransitively used verbs were found to be lowest in number with regard to overall occurrences in the data, they qualitatively speaking constituted the more interesting and more promising analytical categories. In the light of complex-transitively complemented verbs the following points were noted as important in the context of the current study: the verb *put* which according to Goldberg (1995) makes the semantics of the construction itself most easily accessible ranked highest in frequency, closely followed by *see*. The regular occurrence of *put* in this complementation pattern is significant insofar as it is often argued that the consistent use of a single verb in a particular construction supports the acquisition of a construction (e.g., Casenhiser and Goldberg 2005). The fact that *see* appears almost as frequently in my data led me to suggest that the written-to-be-read input in this case differs from spoken language. Although spoken input studies are remarkably rare when it comes to the complex-transitive construction, there are a few that discuss it. Regardless of the fact that they use different terminology ("caused-motion", "resultative", "causative" or "locative" construction), none of them refers to the usage of verbs of perception in this context. Thus, children regularly hear the instantiation of the complex-transitive construction with a set of quite different verbs (apart from *see*, *hear*, *watch* and *smell* were accounted for) through repeated storybook reading. Further noteworthy candidates in this context were the verbs *make*, *let* and *help* which typically express phrasal causatives (Tomasello 2003) and as such were also found among the more frequently occurring verbs in my data. A final point worth mentioning regards the

clear bias which I observed in my data concerning the type of complex-transitive complementation. The instances in which the additional complementing element is a predication adjunct (SVOA sentence type) clearly outnumbered those in which it is realised by an object complement (SVOC sentence type). I here offered the hypothesis that spoken language input might actually be skewed in the same way due to the real-world scenes experienced by young children. Taking up the semantically-based notions of locatives, causatives and resultatives it seems plausible to argue that there are more occurrences of the former than of the latter which will find expression in the language directed at children.

The ditransitive construction

For the remaining ditransitive complementation pattern I took a study by Mukherjee (2005) as my starting point. Here, the "basic form" of ditransitive complementation is syntactically defined by the formula "S:NP-DV-O_i:NP-O_d:NP". Operating with an "extended" version of Mukherjee's definition (S:NP-DV-O_i:NP-O_d:NP/CL) I came to the conclusion that more than 75% of all ditransitively used verbs in the CSB corpus occur in this extended basic form of complementation. In a next step, I observed the same conformity among the ditransitively used verbs with regard to the underlying semantics: all of them, albeit to slightly differing extents, express transfer and thus comply with the polysemous ditransitive construction (Goldberg 1995). Thus, it is this dative pattern in all its variations that is most promising to add to children's growing repertoire of linguistic representation.

In what followed, I drew attention to the various distinct approaches found in the literature in connection with the concept of ditransitivity and discussed two of them (Goldberg 1995, 2006; Mukherjee 2005) in more detail in the context of my findings to illustrate to what extent interpretations and results in linguistic studies often depend upon the chosen perspective. When looking at the frequencies of individual verbs, two of them stood out: *give* and *tell*. While the first is often considered the prototypical candidate for the ditransitive construction, the almost equally frequent appearance of the latter must be seen as a particularity of the CSB corpus and can enhance a child's knowledge of the use of *tell* accordingly. My results showed that the text language contains a number of verbs that occur in and across the various subtypes of the ditransitive construction (as well as in other complementation patterns) which,

depending on the status of a child's linguistic development, can enrich his or her language knowledge.

Get and *have*

The second area of interest was multiple class membership of verbs. In order to give a detailed account of how multiple class membership is manifested in the English language I turned to examining the occurrence of two particularly versatile verbs: *get* and *have*. In Chapter 7, I began by emphasising the fact that a large number of English lexical verbs can occur in more than one complementation pattern. *Get* is a particularly versatile verb. However, my analysis showed that in the CSB corpus it most frequently occurs in the intransitive structures (SVC and SVA; roughly 58%) or the monotransitive structure (SVO; about 23%). These results were supported by other studies regarding the use of *get* in written language (e.g., Biber et al. 1999; Johansson and Oksefjell 1996). After observing the verb from several different angles I concluded that it should not pose great learning difficulties for children despite its syntactic and semantic versatility and that storybook reading would be beneficial for the process of acquisition, for example, because it offers many instantiations of what I referred to as the prototypical construction of *get*.

I secondly looked at the verb *have*. Being both a full lexical and an auxiliary verb it required analysis on several levels. My investigation of lexical *have* led me to consider it as a possible vehicle for children's acquisition of the monotransitive construction as such since it comes close to the construction's prototypical meaning and is used frequently and very consistently in the construction in the CSB data. Furthermore, I argued that the early acquisition of semantically and syntactically varied *have* can be seen as a step towards a child's understanding that many verbs can be used in different syntactic frames to express related meanings. Besides discussing the syntactic variation I also offered some insights into the formal diversification of *have*. When I found not a single contracted form in my corpus, I suggested that children can benefit from frequent storybook reading insofar as their awareness of the occurrence of auxiliary *have* is sharpened in this context. This, however, applies only as long as the reader pronounces the uncontracted forms as such.

Passives and modal verbs

In Chapter 8, the third and last analytical chapter within the current work, I brought together the analyses of two further linguistic features which, albeit syntactically unrelated, nevertheless have one thing in common in the present context: according to the existing literature both are assumed to be difficult units of acquisition for the English learning child. Considering the importance that is attributed to input language in the language acquisition framework underlying my study I approached the study of the two linguistic phenomena by asking to what extent the structuring of children's input could be responsible for their relatively late acquisition.

With regard to passive constructions I firstly introduced some distinguishing factors: "short" vs. "long", adjectival vs. verbal and *be*- vs. *get*-passives. I examined both *be*- and *get*-passives and found that the first clearly outnumber the second in my data. Secondly, more verbal than adjectival passives occurred. A fair number of the "*be* + adj./part."-constructions could not be classified as either adjectival or verbal and, together with the *get*-passives, formed a third group labelled equivocal passives. This last group was important in the context of the constructional grounding hypothesis which I discussed in Section 8.2.4. But due to the overall fairly low number of verbal and adjectival passives in my data I suggested that storybook reading cannot compensate for the lack of passive constructions in spoken input. My findings thus support the constructivist hypothesis that it might rather be the absence of passives in input language than cognitive constraints on the child's side which hinders earlier acquisition.

Before analysing the use and distribution of modal auxiliaries in the CSB corpus I briefly introduced the concepts of epistemic, deontic and dynamic modality. My analysis of the modal auxiliaries demonstrated that, independent of the theoretical perspective (Palmer 2003; Quirk et al. 1985), epistemically used modals occur no less than deontically and dynamically used modals. As naturalistic input has been shown to be biased towards the use of deontic/dynamic modals, I thus hypothesised that children can undoubtedly benefit from the text language here, even though it does not express the full range of epistemic meanings. My subsequent discussion of epistemic phrases, which frequently occur in spoken input language and seem to be used by young children

in place of "proper" modal verbs, further supports this hypothesis since I detected hardly any such phrases in the written data.

9.2 Outlook: Suggestions for further research

The present study combines the cognitive-functional and usage-based approach to language acquisition with detailed, corpus-based analyses of verb constructions in a so far unconsidered source of input language. It thus contributes to the growing body of input studies and offers insights into structural differences and similarities between the spontaneous spoken and the prefabricated written(-to-be-read) language that English-speaking children encounter early in their lives.

With regard to possible future research directions implied by the findings of the current work one idea seems almost self-suggestive: following the design of other studies on early shared book reading it will be of utmost importance to test its impact on children's grammatical development in an experimental setting. For this, a number of children of similar age and social background would have to be recruited who would then be divided into a study and a control group. Reading sessions would have to take place in one and the same surrounding at regular times. They as well as additional constant observation sessions (e.g., of play times, meal times or of other verbal interactions with caretakers) in between would have to be recorded. Intergroup analyses should reveal the possible grammatical advancements of the study group children as suggested by the findings of the present study. Innergroup analyses could be based on comparisons between the frequencies of reading sessions the children receive, the frequencies of repetitions of individual stories and of parental reading habits could be interesting study factors. Comparisons across different age groups are also imaginable.

Everybody who is experienced in reading to a child knows how upset children can get about deviations from or omission of parts of the text, about the "wrong" questions or comments made by the reader. Yet apart from the studies presented in Chapter 3 few analyses exist that describe the consequences of different reading habits (e.g., Haden et al. 1996; Hammett et al. 2003; Natsiopoulou et al. 2007). In order to illustrate the importance of the role and the behaviour of the reader in the current context, a commonly known model of literary communication developed in the realm of literary studies can be of help. However, as literary scholars are first and foremost

interested in depicting all the factors involved in creating, transmitting and receiving a literary text, no particular attention is paid to situations in which the reader and the recipient are two different persons. On the basis of, for instance, the model shown in Nünning and Jucker (1999) I therefore propose the following scheme to explicitly bring the "reader aloud" and his or her role within the process of literary communication to the forefront:

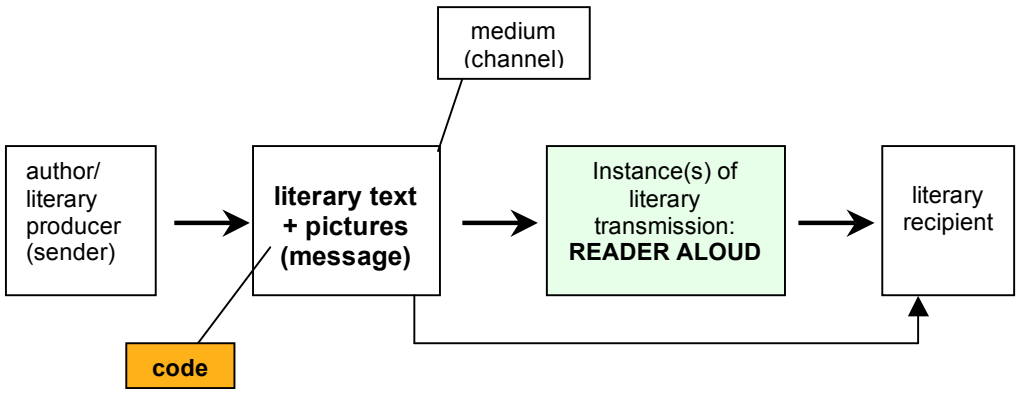

Figure 9.2: Reading aloud and the model of literary communication

Although Figure 9.2 is reduced to very few of the elements that form part of literary communication and thus depicts the process in a very simplified manner, it nevertheless incorporates the most important components with regard to storybook reading. In line with the original model (Nünning and Jucker 1999: 49) an author (sender) who produces a literary text combined with pictures (message) stands at the beginning and the literary recipient (the listening child) stands at the end of the process. Text and pictures together form the medium (channel) through which the message is transmitted. But since the literary recipient only partly decodes the literary message himself (the pictured part) it needs a further connecting element to fully decode the literary message in this model: the reader aloud. As this is a particularly important component, it certainly deserves further consideration not just in the current context but probably also in the context of literary studies in general. A second significant aspect in the model is the code: sender and recipient must speak the same language. In the current context, it is the reader aloud who is responsible for choosing a code that he or she considers adequate for the listening child. The underestimation of children's competence might lead him or her to deviate from the given code in favour of a simpler version of the literary text. However, against the background of the present study and its findings it

would be of utmost importance that a reader adheres closely to the written code as only then the child will actually hear the constructions used in the text language. Furthermore, the interconnected reader aloud can contribute to the actual message by commenting upon it either verbally, non-verbally or paralinguistically. Thus, a further aspect of interest if experimentally testing the hypotheses of the current study could be seen in analysing the role and the behaviour of the reader and their possible influences on the effects of early shared reading and grammatical development.

However, future research would not necessarily have to be exclusively experimentally-oriented. Further theoretical approaches would also be conceivable. For instance, although constructivists suggest that the input probably plays a far more important role in the acquisition of language than has often been assumed, many more detailed studies are needed to identify which specific aspects of the input are important at what stage of the acquisition process. The current investigation has clearly only offered a preliminary report on the structures found in children's early storybooks. The analysis of a larger database could certainly provide more statistically relevant results, especially in those areas in which comparatively small numbers of occurrences did not allow me to make more than tentative suggestions (e.g., passive constructions). It would also be interesting to look at the syntax of storybooks written in languages other than English since studying the possible impact of early shared reading on grammatical development in a cross-linguistic context, both on a theoretical and an experimental level, would clearly widen our knowledge in this area. Ideally, languages such as Hebrew, German and Spanish should be considered here as already a fair number of spoken input studies exist for these languages.

In addition to a more detailed and cross-linguistic analysis of storybook language, the investigation of yet different input sources could be contemplated. In view of the diverse media with which even small children often come in regular contact these days the examination of the language used in computer and video games[173] would also add to our knowledge of children's input language. Following the design of the current work the linguistic analysis of a more traditional source, namely children's audio

[173] Examples of computer games would be: *Bear in the Big Blue House: Sense of Adventure* (2004; age 3+), *Learning Ladder: Pre-School (Maths, Reading, Writing)* (2000; ages 3-5), *Bob the Builder: Bob Builds a Park* (2002; ages 3-7) or *My First CD-Rom: Toddler School* (2003; ages 1-3).

plays[174], could also lead to learning more about differences and similarities between the various sources of children's input language.

Despite its being purely theoretical in its approach, I believe that the current work nevertheless succeeded in indicating, based on its empirical findings, a number of possible scenarios that clearly rather speak in favour of starting shared book reading sessions as early as possible to help our children along the linguistic developmental path. Thus, we should try and tap the full potential of early shared book reading despite the fact that we do not yet know how much children actually benefit linguistically.

[174] E.g., *The Rugrats – In Search of the Mighty Reptar* (1999), *Bedtime and Playtime Stories by Teletubbies* (2000) or *It's Fun to Fimble* (2005).

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Appendix I: The CSB corpus

Code	Book title and author	Words	Year	Origin
CB 01	*Breakfast* (Shirley Hughes)	395	1988	GB
CB 02	*D.W. The Picky Eater* (Marc Brown)	645	1995	US
CB 03	*Statue* (Shirley Hughes)	74	1988	GB
CB 04	*Proper Words* (Shirley Hughes)	778	1988	GB
CB 05	*But not the Hippopotamus* (Sandra Boynton)	133	1982	US
CB 06	*Coming to Tea* (Sarah Garland)	48	1985	GB
CB 07	*Doing the Washing* (Sarah Garland)	69	1983	GB
CB 08	*Floss* (Kim Lewis)	498	1992	GB/CAN
CB 09	*Freddy's Teddies* (Peter Melnyczuk)	687	1995	GB
CB 10	*Going Shopping* (Sarah Garland)	43	1982	GB
CB 11	*Having a Picnic* (Sarah Garland)	41	1983	GB
CB 12	*Little Red Tractor* (Peter Tye)	713	1999	GB
CB 13	*Joe Useless* (Dennis Reader)	589	1993	?
CB 14	*Pajama Time!* (Sandra Boynton)	182	2000	US
CB 15	*The School That Went to Sea* (Martin Waddel)	604	1993	GB
CB 16	*Little Beaver and the Echo* (Amy MacDonald)	678	1990	GB/US
CB 17	*Mrs Armitage on Wheels* (Quentin Blake)	577	1987	GB
CB 18	*Peace at Last* (Jill Murphy)	358	1995	GB
CB 19	*Whatever Next!* (Jill Murphy)	314	1995	GB
CB 20	*When the Teddy Bears Came* (Martin Waddel)	264	1994	GB
CB 21	*Little Red Car to the Rescue* (Vivian French)	696	1994	GB
CB 22	*The Badger's Bath* (Nick Butterworth)	453	1999	GB
CB 23	*Shop* (Shirley Hughes)	382	1992	GB
CB 24	*Mr MacNally's Hat* (Shirley Hughes	1279	1988	GB
CB 25	*Harry the Dirty Dog* (Gene Zion)	463	1956	US
CB 26	*The Tub People* (Pam Conrad)	914	1989	US
CB 27	*Swimmy* (Leo Lionni)	295	1963	US/NL
CB 28	*Owen* (Kevin Henkes)	463	1993	US
CB 29	*The Trip to Panama* (Janosch)	2008	1978	DE
CB 30	*The Story of Babar* (Jean de Brunhoff)	1192	1933	FRA
CB 31	*Kipper's Birthday* (Mick Inkpen)	616	1993	GB
CB 32	*First Tomato* (Rosemary Wells)	278	1992	US
CB 33	*Little Bear Lost* (Jane Hissey	1190	1989	GB
CB 34	*Edward's First Swimming Party* (Rosemary Wells)	208	1996	US
CB 35	*Be Gentle!* (Virginia Miller)	205	1989	GB
CB 36	*One Snowy Night* (Nick Butterworth)	778	1997	GB
CB 37	*The Treasure Hunt* (Nick Butterworth)	805	1996	GB
CB 38	*Mrs Lather's Laundry* (Allan Ahlberg)	594	1981	GB
CB 39	*Jack's House* (Caroline Cary)	529	1990	GB
CB 40	*Eddie and the Witches* (Billie Wheeler)	941	1994	GB?
CB 41	*The Blue Balloon* (Mick Inkpen)	258	1989	GB

CB 42	*Bear* (Mick Inkpen)	542	1997	GB
CB 43	*Jane and the Dragon* (Martin Bayton)	945	1988	GB
CB 44	*Big Blue Whale* (Nicola Davies)	1157	1997	GB
CB 45	*The Enormous Crocodile* (Roald Dahl)	2872	1978	GB
CB 46	*Kipper* (Mick Inkpen)	332	1991	GB
CB 47	*Kipper's Toybox* (Mick Inkpen)	417	1992	GB
CB 48	*The Easter Bunny* (Winfried Wolf)	290	1984	DE
CB 49	*Rabbit* (Alison Catley)	283	1991	GB
CB 50	*Marmaduke and the Scary Story* (Michael Ratnett)	580	1990	GB
CB 51	*Little Rabbit's Big Day* (Charlotte van Ernst)	496	1989	GB
CB 52	*Osbert and Lucy* (Ronald Ferns)	862	1988	GB
CB 53	*Rabbit Gets Ready* (Claire Fletcher)	632	1995	GB
CB 54	*Rabbit Magic* (Susie Jenkin-Pearce)	162	1993	GB
CB 55	*Mimsey and Binks* (Caroline Castle)	923	2003	GB
CB 56	*The Carrot Patch* (Zoe Figg)	879	2003	GB
CB 57	*Carrot Tops and Cottontails* (Jan Mark)	1005	1993	GB
CB 58	*ZOOM!* (Robert Munsch)	841	2003	CAN
CB 59	*Mortimer* (Robert Munsch)	381	1983	CAN
CB 60	*Slinky Malinki Catflaps* (Lynley Dood)	441	1998	GB
CB 61	*Thomas and the Shooting Star* (Rev. W. Awdry)	850	2002	GB
CB 62	*Little Cloud* (Eric Carle)	176	1996	US
CB 63	*Lost in the Museum* (Miriam Cohen)	631	1979	US
CB 64	*Night-Night, Spot* (Eric Hill)	444	2004	GB
CB 65	*Dear Zoo* (Rod Campbell)	156	1984	GB
CB 66	*Just Like Jasper!* (Nick Butterworth)	66	1989	GB
CB 67	*Baseball Saved Us* (Ken Mochizuki)	1467	1993	US
CB 68	*Jasper's Jungle Journey* (Val Biro)	188	1995	GB/HUN
CB 69	*Uncle Jed's Barbershop* (Margaree King Mitchell)	969	1993	US
CB 70	*Guess How Much I love You* (Sam McBratney)	372	1994	IRL
CB 71	*Kipper's Snowy Day* (Mick Inkpen)	639	1996	GB
CB 72	*Morag and the Lamp* (Joan Lingard)	447	1990	GB
CB 73	*Something Else* (Kathryn Cave)	533	1994	GB

Appendix II: The distribution and frequencies of lexical verbs

1) Intransitively used verbs

VERB	#	VERB	#	VERB	#	VERB	#
act	1	finish	1	muck	1	snort	1
advance	1	fish	4	nod	1	snow	2
answer	7	fizz	1	notice	2	sniggle	1
appear	4	flap	1	open	1	soak	1
argue	1	flash	1	order	1	soar	3
arrive	9	flaunt	1	paddle	10	sob	1
bang	1	float	9	pajammy	4	somersault	1
bask	1	flock	1	paint	1	sound	1
bat	3	flip-flop	1	part	1	sparkle	4
beat	1	flop	1	pass	7	speak	3
beg	1	flop-flip	1	pay	1	speed	2
behave	1	flounce	1	peep	4	spin	1
belong	2	flow	3	peer	9	splutter	3
bite	8	fly	23	pen	1	spring	2
blow	4	follow	8	plant	2	squeak	1
bob	1	fool	1	play	21	squeal	1
boil	1	forget	1	point	1	squeeze	6
bounce	5	foresee	1	polish	1	stamp	1
bound	1	freeze	1	pop	2	stand	36
breath	1	frown	2	poise	1	stare	3
brim	1	gallop	2	pour	2	start	15
budge	4	gasp	2	practice	2	stay	13
bump	2	gaze	2	preen	1	steam	1
burn	2	gibber	1	promise	1	steer	1
borrow	2	glint	2	prowl	1	step	5
burst	2	go	232	puff	3	stick	3
call	4	grin	2	pull	9	stir	3
capsize	1	groan	1	purr	2	stop	22
care	2	ground	1	push	6	stream	1
catch	1	grow	12	race	5	stretch	1
celebrate	1	growl	1	rain	12	stride	1
change	1	grunt	1	rattle	2	strike	1
charge	1	guess	2	reach	4	struggle	1
chase	2	gulp	1	read	3	stumble	1
chat	2	gush	1	remember	2	surface	1
check	2	hang	7	rest	4	swarm	1
cheer	2	happen	11	return	4	sway	1
chew	1	hasten	1	ride	10	sweat	1
choose	1	hear	1	ring	2	sweep	1
chuckle	3	heave	1	rise	2	swim	20
chug	2	help	17	roar	3	swing	5
clank	1	hide	16	rock	1	swish	1
clear	1	hiss	2	roll	7	swoop	1
climb	13	hobnob	2	rummage	3	swoosh	1
cling	1	hoot	3	run	62	take	1
close	1	hop	12	rush	8	talk	7
collect	1	hope	1	sail	10	tap	1
come	192	horse	1	save	1	tell	2
complain	1	howl	1	say	15	think	13
cook	2	huddle	2	scamper	2	throw	3
cough	5	huff	1	scramble	6	thunder	1
count	1	hunt	2	scream	2	tick-tock	2

crash	3	hurry	12	screech	1	tiptoe	4
crawl	2	hurt	2	scrub	2	touch	1
creep	13	hurtle	2	scurry	4	trail	1
crowd	3	jeer	1	search	6	travel	7
cry	28	join	1	see	8	tread	1
cycle	1	joke	1	seem	1	trot	2
dance	13	jump	35	sew	6	try	3
dangle	1	jut	1	shake	4	tumble	6
dart	1	keep	1	shatter	1	turn	14
dash	5	knock	2	shed	1	twitch	3
die	3	know	6	shelter	1	understand	1
dig	6	land	6	shift	1	unfold	1
dine	1	last	1	shine	10	unfurl	1
disappear	10	laugh	23	shiver	4	unravel	1
dive	2	lead	1	shoot	2	visit	1
do	8	lean	6	shop	3	waddle	2
drag	1	leap	3	shout	1	wait	10
draw	1	learn	1	shove	1	wake	4
dream	4	leave	1	show	3	walk	26
dribble	1	lie	24	shriek	1	wander	1
drift	4	like	2	sigh	3	want	1
drink	2	listen	12	sing	15	wash	1
drip	2	live	43	sit	43	watch	9
drive	3	look	53	skid	1	water	2
droop	2	loose	1	skip	1	wave	8
drop	2	lumber	1	sleep	23	wear	2
drown	1	lurk	1	slide	6	weigh	1
dry	1	make	1	slink	1	whirl	1
dust	1	manage	4	slip	4	whistle	4
eat	12	march	5	slither	3	whiz	7
echo	1	mate	1	slobber	1	win	1
escape	2	matter	1	slow	1	wipe	1
expect	1	mean	1	smile	12	wonder	1
explain	1	measure	1	sneak	2	work	12
faint	1	meet	3	sneeze	4	worry	8
fall	37	mind	3	sniff	1	wriggle	1
fidget	2	miss	4	snip	5	yawn	4
fight	1	mix	1	snooze	1	zoom	2
fill	1	move	19	snore	4		

2) Intransitively used phrasal verbs

VERB	#	VERB	#	VERB	#	VERB	#
bend	1	gaze	1	pull	2	swim	1
breath	1	get	8	rattle	1	switch	1
burst	1	give	2	reach	2	swoop	1
calm	1	go	30	rise	2	take	1
come	21	hold	2	roll	1	tidy	1
crash	1	hurry	3	run	16	tip	3
draw	1	join	5	rush	1	trickle	1
drift	1	jump	3	set	11	turn	4
drive	2	keep	2	settle	4	waddle	1
end	2	lie	8	show	1	wake	5
fall	2	line	3	sit	12	wander	2
find	1	look	14	slither	1	warm	1
fit	1	move	1	snuggle	2	watch	2
fly	5	nod	1	stand	1	wind	1

freeze	1	open	1	start	1	wriggle	1
gallop	1	pass	1	stick	2		
gather	1	pop	5	stretch	1		

3) Monotransitively used verbs

VERB	#	VERB	#	VERB	#	VERB	#
abandon	1	examine	1	meet	14	sow	1
accept	1	expect	11	mend	2	spare	1
add	2	explain	1	mind	1	spend	1
address	2	explore	2	miss	5	spot	1
admire	3	face	2	mix	2	spread	1
allow	1	fear	1	move	2	sprinkle	1
arrange	2	feed	3	munch	1	squash	2
ask	3	feel	5	name	1	squeeze	1
attack	2	fetch	5	need	34	stab	1
avoid	1	fill	6	nibble	3	stand	6
await	1	find	72	notice	8	start	28
bake	1	finish	5	offer	1	startle	1
bark	1	fix	2	open	23	steal	2
bear	1	flatten	1	organize	1	steer	1
begin	41	flood	2	outpace	1	stir	2
believe	5	flutter	1	overhear	2	stop	14
bend	1	fold	1	overtake	1	straighten	1
bet	3	follow	13	own	1	stretch	1
bite	3	forget	6	pack	6	strike	3
block	1	forgive	1	paint	6	suck	2
blow	1	frighten	1	park	1	suit	2
bother	1	fry	1	pass	1	sun	1
break	2	funnel	1	pay	4	suppose	2
breath	2	gather	3	pick	2	surprise	2
bring	6	give	8	pinch	1	swallow	4
brush	2	gnaw	1	plant	3	swing	2
build	14	have got	11	play	17	take	34
bury	2	grab	4	point	1	talk	1
bust	1	grasp	2	poison	1	tap	1
buy	10	greet	1	pop	1	taste	1
call	4	grip	1	pour	1	teach	1
care	1	grow	5	practice	5	tease	1
carry	11	guard	1	pretend	10	tell	15
catch	17	guess	6	prod	1	thank	4
change	1	happen	3	promise	3	think	79
chase	7	hate	12	pull	3	throw	2
chew	1	have	156	push	3	tickle	1
choke	1	hear	27	rain	1	tidy	1
choose	10	heat	2	raise	3	toot	1
claim	1	help	7	reach	7	touch	7
clean	1	herd	1	read	3	train	1
clear	2	hide	4	realize	2	travel	1
climb	5	hit	4	recognize	2	trick	1
close	8	hold	9	release	1	trim	1
clutch	2	hope	15	remember	8	trouble	1
collect	6	hug	3	rescue	2	try	26
comb	1	hunt	2	reveal	1	turn	8
come	1	hurt	6	ride	1	twirl	1
conceal	1	imagine	1	ring	1	twist	1
continue	2	include	1	rinse	3	unbolt	1

cook	5	inspect	1	rock	2	unclip	1
cost	4	invent	1	roll	1	understand	5
count	2	invite	1	rub	2	undo	1
cover	3	jiggle	1	ruin	1	unhook	1
cross	3	join	4	run	1	unpack	1
crunch	1	keep	8	satisfy	1	unruffled	1
cure	1	kick	6	save	4	unsquash	1
curse	2	kill	6	say	42	use	7
cut	12	kiss	7	scold	1	visit	4
damage	1	know	48	score	1	wag	4
dare	1	lasso	1	scratch	3	wait	1
decide	10	lay	2	search	3	wake	3
delay	1	lead	2	see	110	walk	1
deliver	2	learn	7	seek	1	want	65
deserve	1	leave	9	seize	1	wash	27
dig	2	let	3	sell	2	waste	1
discuss	2	lick	6	send	1	watch	9
disturb	1	lift	3	set	1	water	1
do	60	light	5	shake	5	wave	2
drag	1	like	57	shave	1	wear	31
drat	1	lock	1	shell	1	weigh	1
draw	4	long	1	show	3	welcome	1
dream	2	look	2	shut	7	wet	2
drill	1	lose	9	sight	1	whack	2
drink	7	love	16	sing	4	whistle	1
drive	1	lower	1	slam	1	wipe	2
drop	6	make	49	smell	3	wish	7
dry	2	manage	1	smile	1	withstand	1
eat	55	marry	2	smooth	1	wonder	11
enjoy	7	mash	1	snap	1	work	2
enter	1	matter	2	sniff	3		
entertain	1	mean	8	soap	1		

4) Monotransitively used phrasal verbs

VERB	#	VERB	#	VERB	#	VERB	#
block	1	have	1	pry	1	sort	2
blow	2	hoist	2	pull	3	spoon	1
breathe	1	hold	6	punch	1	spread	2
bring	3	keep	2	push	2	stretch	1
cheer	2	lay	1	put	24	suck	1
clean	1	let	2	rig	1	sweep	1
count	1	lick	1	roll	2	take	5
dig	2	lift	2	round	4	think	1
drown	1	lock	1	run	1	throw	2
dust	1	make	3	saddle	1	tie	1
eat	8	mop	1	scoop	1	try	5
fill	5	open	2	see	1	tuck	1
find	1	pack	2	send	1	turn	4
fix	1	pay	1	sew	1	use	2
gather	1	pick	10	shout	1	wake	3
gobble	1	plump	1	show	2	write	1
gulp	2	pop	1	smell	1		
hang	7	prick	1	snap	1		

5) Monotransitively used prepositional verbs

VERB	#	VERB	#	VERB	#	VERB	#
add	1	explain	2	listen	4	sit	1
ask	1	fall	1	live	1	smell	4
believe	1	feast	2	long	1	smile	2
belong	4	feed	1	look	74	sniff	2
break	1	finish	1	make	3	speak	2
burst	2	forget	2	play	12	stare	7
call	5	gaze	2	point	8	take	1
cling	2	glance	2	practice	1	talk	9
come	4	grin	1	recover	1	think	13
dash	1	hear	4	remember	1	turn	2
decide	1	hitch	1	scratch	1	wait	5
depend	1	know	2	search	2	wink	3
dive	1	laugh	4	shoot	1	wish	2
dream	3	lead	1	sing	2	worry	3

6) Monotransitively used phrasal-prepositional verbs

VERB	#	VERB	#	VERB	#	VERB	#
catch	2	hold	4	look	6	show	1
grin	3	keep	1	save	1		

7) Complex-transitively used verbs

VERB	#	VERB	#	VERB	#	VERB	#
balance	1	force	1	pin	1	sneak	1
bite	1	go	1	place	1	spend	2
blaze	1	group	1	play	2	spread	2
blow	1	hand	1	plump	1	sprinkle	1
bring	2	hang	1	poke	1	squeeze	1
build	1	have	20	pound	1	steer	2
bury	1	hear	16	pour	1	stick	3
buy	1	heat	1	press	1	stuff	1
call	6	help	12	prop	1	suck	1
carry	12	hide	2	pull	8	swing	2
catch	2	hitch	1	push	3	swizzle	1
change	1	hold	3	put	44	take	37
clap	1	invite	1	ride	4	tell	1
content	1	jump	1	rub	6	throw	3
count	1	keep	15	run	2	tickle	1
cover	1	kiss	1	sail	1	tie	2
crown	1	knock	1	save	1	tip	1
cuddle	1	lather	1	say	2	toast	1
deliver	1	lead	8	scrump	1	toss	1
dip	1	leave	7	see	43	train	2
do	6	let	13	send	9	tuck	3
drag	2	lift	4	set	2	turn	2
draw	1	like	3	settle	1	twirl	2
dress	1	love	11	shake	1	twist	1
drip	1	make	29	share	2	use	7
drop	1	meet	2	shift	1	warm	1
drum	1	move	1	shine	1	watch	6
eat	1	need	2	shoo	1	wear	1
expect	1	notice	1	shove	3	wrap	5
fill	1	nudge	1	show	1	write	1
find	13	paint	2	singe	1		

fish	1	pat	1	sit	3		
fix	4	pick	1	smell	1		

8) Complex-transitively used phrasal verbs

VERB	#	VERB	#	VERB	#	VERB	#
bundle	1	take	1	wrap	1		
put	1	throw	1				

9) Complex-transitively used prepositional verbs

VERB	#	VERB	#	VERB	#	VERB	#
look	4	talk	2	wait	1		
point	1	use	1				

10) Complex-transitively used phrasal-prepositional verbs

VERB	#	VERB	#	VERB	#	VERB	#
gaze	1	watch	1				

11) Ditransitively used verbs

VERB	#	VERB	#	VERB	#	VERB	#
ask	8	cook	1	make	5	send	9
beg	1	feed	1	mean	1	show	9
bring	2	give	37	paint	2	take	1
build	2	kiss	1	pick	1	teach	3
buy	4	last	1	read	4	tell	34

12) Ditransitively used prepositional verbs

VERB	#	VERB	#	VERB	#	VERB	#
bring	1	know	1	remember	2	tell	5
explain	1	make	2	remind	1	thank	1
fill	1	mumble	1	say	2	use	2
fix	1	play	4	save	2	write	1
forget	1	point	1	snap	1		
give	4	read	1	take	1		

13) "Direct speech" verbs

VERB	#	VERB	#	VERB	#	VERB	#
add	1	demand	2	read	1	snort	2
agree	2	exclaim	2	remind	1	sob	3
announce	2	explain	2	reply	4	speak	1
answer	3	gasp	3	roar	1	squeak	2
ask	56	go	6	say	664	suggest	1
bawl	1	grin	1	scold	1	tell	10
begin	1	grump	1	scream	1	think	14
bellow	1	howl	1	screech	1	wail	2
call	23	insist	1	shout	25	warn	1
chirp	3	laugh	3	shriek	2	whisper	10
chortle	1	murmur	1	sigh	5	wish	1
chuckle	3	mutter	1	sing	10	wonder	2

continue	2	peep	2	smile	1	write	1
crackle	1	pray	1	snap	1	yawn	1
cry	32	promise	1	sneer	1	yell	12
decide	1	puff	2	sniff	2		

14) Verbs used in the *be*-passive construction

VERB	#	VERB	#	VERB	#	VERB	#
answer	1	expect	1	look	2	show	1
arrange	1	find	1	love	1	shut	1
blow	1	follow	1	make	1	sizzle	1
build	1	hear	1	marry	1	smear	1
bunch	1	hide	1	mean	1	squash	1
call	8	introduce	1	park	1	strike	1
carry	2	jerk	1	pick	1	sweep	1
chase	1	kiss	1	pin	1	teach	1
choose	1	lay	1	place	1	tell	1
cuddle	1	leave	2	raise	1	throw	1
curl	1	lift	1	read	1	tow	1
disturb	1	line	1	see	4	trust	1
eat	1	lock	1	serve	1	tuck	1
						wash	1

15) Verbs used in the *get*-passive construction

VERB	#	VERB	#	VERB	#	VERB	#
boil	1	cut	1	set	2	tag	1
bother	3	dress	2	squash	1	turn	1
catch	1	lose	5	squish	1		
cook	1	pick	1	squizzle	1		

Curriculum Vitae

Barb Breustedt was born 24 February 1976 in Wolfenbüttel, Germany. She attended primary school and the *Gymnasium Grosse Schule* in Wolfenbüttel (1988-1995). After a year as an Au-pair in New York, USA, and two semesters at the University of Leipzig, Germany, she studied "Modern Languages and Economics" at the University of Gießen, Germany, graduating with a diploma thesis in English Literature in 2003. She continued working at the University of Gießen as an assistant under Prof. Dr. Joybrato Mukherjee and began her research for the present PhD thesis. In 2004, she came to Switzerland to work as a research assistant for Prof. Andreas H. Jucker at the English Department, University of Zurich, where she finished her PhD thesis in 2007. She is currently still employed at the Department.